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LETTER WITH U S NAVY RESPONSES TO U S EPA REGION V COMMENTS ON DRAFT FINAL INTERIM MEASURES REPORT FOR SOLID WASTE MANAGEMENT UNIT 13 NSA CRANE IN
10/31/13
TETRA TECH

TETRA TECH

PITT-10-13-073

October 31, 2013

Project 112G02096

Mr. Howard Hickey
NAVFAC MW
201 Decatur Avenue
Building 1A, Code EV
Great Lakes, Illinois 60088

Reference: CLEAN Contract No. N62470-08-D-1001
Contract Task Order F272

Subject: Responses to Additional EPA Region 5 Comments Dated 23 September 2013 Concerning Responses to EPA Comments Regarding the Draft Final Interim Measures Report for Solid Waste Management Unit (SMWU) 13 – Mine Fill B

Dear Mr. Hickey:

Please find enclosed for your review an electronic copy of the subject responses to comments (RTCs) for SWMU 13 – Mine Fill B – at NSA Crane and electronic copies of the two word files (with redline shown) and two excel files that were updated based on these RTCs.

If you have any questions, please contact me at 412-921-8615 (tom.johnston@tetratech.com) or Ralph Basinski at 412-921-8308 (ralph.basinski@tetratech.com).

Sincerely,

T.E. Johnston

Tom Johnston
Project Manager

TEJ/mlg
Enclosure

cc: Mr. Tom Brent, NSA Crane (1 copy of electronic letter and RTCs)
Mr. John Trepanowski, Tetra Tech (1 copy of electronic letter)
Mr. Ralph Basinski, Tetra Tech (1 copy of electronic letter and RTCs)
Mr. Tom Johnston (1 copy of electronic letter and RTCs)
File: 112G02096, CTO F272 (1 hardcopy and electronic letter and RTCs)

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RESPONSE TO ADDITIONAL EPA COMMENTS RECEIVED VIA ELECTRONIC MAIL ON SEPTEMBER 23, 2013, REGARDING:
RESPONSE TO EPA E-MAIL COMMENTS (DATED: JANUARY 4, 2012)
DRAFT FINAL INTERIM MEASURES REPORT
SOLID WASTE MANAGEMENT UNIT (SWMU) 13 – MINE FILL B
NSA CRANE
CRANE, INDIANA

This version of response to comments addresses additional questions received from EPA regarding original response to comments 5 and 6 only. The full set of response to comments is provided, however, as context. Comments are shown in bold font. Responses follow each comment and are shown in regular font. Changes to the Interim Measures Report text are italicized and enclosed in quotation marks.

Comment 1: Section 3.2: here and in other locations in the report, there is reference to a "larger SWMU 13 project that will be summarized by TolTest under separate cover." To what report does this refer?

Response to Comment 1: The referenced report refers to a report that TolTest, Inc. will submit to summarize building demolition activities completed at SWMU 13 – Mine Fill B. This building demolition work was not completed as part of the soil and sediment removal activities summarized under the March 29, 2011 Draft Interim Measures Report for SWMU 13 – Mine Fill A. Reference to the TolTest report has been removed from the IM report.

Comment 2: The first sentence of the first full paragraph on page 3-4 states that samples were collected from excavated material for waste disposal characterization purposes. Note that Tetra Tech's June 9, 2008 Response to Comment EPA-5c states that "All initial characterization of soil and sediments is based on the in situ characterization. The segregation and off-site disposal of excavated material will be based on in-place soil and sediment concentrations." Provide additional explanation on the purpose of the sampling of excavated material for waste disposal characterization. Confirm that > 50 ppm and < 50 ppm soils were segregated for disposal based on the in-situ sampling and delineation.

Response to Comment 2: Waste characterization and segregation of >50 ppm (TSCA) and ≤50 ppm (non-TSCA) material was based on in-situ sampling and delineation of contamination from historical investigations at SWMU 13. The results of these investigations are summarized in the SWMU 13 IMWP. Excavations were staged so that TSCA and non-TSCA materials were excavated separately. The IM report incorrectly reported that additional waste characterization samples were collected. The waste characterization results shown in Appendix F.1 have been removed and the first full paragraph on page 3-4 has been revised as follows:

> *"Waste disposal characterization of soil and sediments was based on in-situ sample results collected during historical investigations, which are summarized in the SWMU IMWP (Tetra Tech, 2008). The segregation and off-site disposal of excavated material was based on these in-place soil and sediment concentrations. These in-situ sample results were used to ensure that non-TSCA (≤50 mg/kg) and TSCA materials (>50 mg/kg) were segregated prior to disposal.*

Comment 3: Referring to Appendix C.2, page 2 of 4, check footnote 3 – these sampling points are shown on Figure 3-7.

Response to Comment 3: Footnote 3 in Appendix C.2 has been revised as follows:

> *"Sample was an exploratory sample used to delineate the limits of TSCA soil. Excavation proceeded beyond this sample, and a verification sample was collected at that excavation limit."*

To further clarify the discussion of these samples in the text of the report, a reference to Figure 3-7 has been added to the first sentence of the first paragraph in the subsection Round 1 Verification Sample Collection and Results on page 3-13.

Comment 4: Referring to the last complete sentence on page 3-17, to which landfill were these materials sent?

Response to Comment 4: Based on PCB test kits results, sediment in the Building 166 trenches was determined to be non-TSCA (≤50 ppm total PCBs). Upon further review of the manifests provided by TolTest, there were two manifests from 1/22/2009 that were missing from the manifest summary spreadsheet, but were included in Appendix J.1 (Manifests and Weight Tickets). It was determined that these two manifests were for material excavated from the Building 166 trenches. This material was taken to the Sycamore Ridge Landfill for disposal.

Section 3.2.5 has been revised to reflect disposal of this material at the Sycamore Ridge Landfill during this interim measure. The header beneath the 3.2.5.1 header has been revised to say "Round 1 samples" instead of "Exploratory Samples". The table shown on page 3-17 has been revised as follows, and the note beneath the table has been removed:

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)	Non-TSCA Material Disposed (tons)	Incoming Backfill Material (tons)
1B	1	3	3	0	0	47.60	0
Total	1	3	3	0	0	47.60	0

The first sentence of the last paragraph on page 3-17 has been moved to the last sentence of the second paragraph on page 3-17 and revised as follows:

> *"Based on the test kit results for 13SD079, 13SD080, and 13SD081, the Navy directed TolTest, Inc. to clean out the Building 166 trenches up to location 13SD081 (Figure 3-11) and dispose of the material in an off-site landfill."*

A new section has been added within Section 3.2.5.1 as follows:

> *Round 1 Excavation and Off-Site Disposal*
>
> *"TolTest, Inc. completed the Area 1B Round 1 excavation January 22, 2009. During the Round 1 excavation, TolTest excavated all sediment from the Building 166 trenches (Figure 2-11). Two loads of sediment were excavated on January 22, 2009, and direct loaded for transport to the landfill. On January 22, 2009, the two loads of non-TSCA sediment were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 47.60 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I)."*

The fifth sentence in the last paragraph on page 3-1 has been deleted and the sixth sentence has been revised as follows:

> *"Disposal of sediment collected from the Building 166 trenches and sediment and debris from the demolition of the Building 169 sump is summarized in Areas 1B (Section 3.2.5) and 5A (Section 3.2.12), respectively".*

The total tons of non-TSCA soil disposed during the project, which is reported in the second full paragraph on page 3-4 has been revised from 4,113.5 tons to 4161.1 tons to reflect these two additional loads of sediment from Area 1B.

Comment 5: Referring to the second and third paragraphs of Section 3.2.7.1, it is unclear how these materials were handled for disposal and to which receiving facility they were delivered. Were they direct loaded for off-site disposal or stockpiled near Building 2502? Confirm whether this > 50 ppm material was disposed of at Heritage landfill.

Response to Comment 5: The first three paragraphs of Section 3.2.7.1 incorrectly described the type of waste and waste handling and disposal because the information required to answer this question is vaguely documented. The manifests and daily reports have been reviewed and multiple personnel involved in the excavations and sampling have been queried. Based on this research, the text has been corrected in Section 3.2.7.1 to describe the TSCA material disposal. The revised first three paragraphs of Section 3.2.7.1 are as follows:

"Round 1 Excavation and Off-Site Disposal

Area 2A initial excavation limits were established around the Area 2 grab sample aliquot (13SOF064D) that exceeded the cleanup goal. As discussed in Section 3.2.6.1, Tetra Tech hand augered through the fill to a depth of 2 ft bgs to collect four new grab samples at the same locations as the four grab samples comprising composite sample 13SOCF021A. Sample 13SOCF021A ~~was~~ had been collected previously and exhibited elevated PCB concentrations*. A new composite sample was formed from these four new grab samples and was labeled 13SOCF064.*

On March 17, 2010, TolTest completed the Area 2A initial excavation to 3 feet bgs, as shown on Figure 3-15. The Area 2A initial excavation consisted of only three walls because what would have been a fourth wall bordered the Area 2 open excavation that had been verified to be clean (Figure 3-15). Soil excavated March 17, 2010, was direct-loaded for transport to the landfill.

On March 17, 2010, one load of TSCA soil was transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 41,320 pounds (21.2 tons) of TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I)."

Section 3.2.6.1 has also been revised to describe the sample collection to be consistent with the description in Section 3.2.7.1. The revised text is as follows:

"Round 1 Supplemental Sample Collection and Results

After obtaining the final validated verification sample results for sample 13SOCF021A (180 mg/kg), it was determined that further sampling was necessary at this location. Using a global positioning system, Tetra Tech relocated the positions of the four aliquots comprising 13SOCF021A. Tetra Tech hand augered through the top 2 ft of clean fill and collected four more soil grab samples from these relocated positions to represent the same area as the original composite sample 13SOCF021A. The four new grab samples were combined into new composite sample 13SOCF064. This composite sample, 13SOCF064, was sent to the fixed-base laboratory on December 18, 2009. The analysis of this composite sample indicated PCB concentrations greater than the cleanup goal."

In additional, Appendix H has been revised to account for the four loads of non-TSCA material that were described in the original, incorrect text. Specifically, the line numbers of Table H-1 that were revised are lines 210 through 213 and line 259. The origin of these four loads is unknown, however, there is no reason to doubt that these loads were correctly manifested as non-TSCA material and disposed correctly. The revised lines of the table are as follows (revision shown in bold italics):

Not Specified	3/15/2010	12:42	169	41760					42560	27300	***Unknown***	***Unknown***
46	3/16/2010	7:08	171	45940					46740	27240	***Unknown***	***Unknown***
46	3/15/2010	8:24	168	45800					46680	27300	***Unknown***	***Unknown***
45	3/15/2010	8:20	167	46020					46640	26880	***Unknown***	***Unknown***

Not Specified	3/17/2010		000315839WAS		41320				43320	34280	***2A***	1

Note: Column widths were altered here to make the revised table lines fit the page. The actual table revisions do not change the original column widths.

EPA Additional Comment on Response to Comment 5: The text of the response states that the four loads were shipped for disposal as non-TSCA material (Table H-1 lines 210 through 213 and line 259), but the revised Table H-1 identifies these loads as being disposed of at Heritage as TSCA material. Were those loads indeed disposed of at Heritage? Also, for numerous manifests (e.g. 46, 127, 139, 105, 134, etc.) where a Crane scale weight is noted, there does not appear to be a corresponding Republic/Heritage receipt weight noted. Why? Lastly, are the Crane scale weighs correctly noted as "Net" weight or should it be "Gross"? It would be helpful to reformat this table to show the net weight of soil disposed of at each facility.

Response to Additional Comment 5:

The response to this comment has been broken down into three parts to address the comments about Table H-1 lines 210 through 213 and line 259 and related text (part 1), lack of corresponding Republic receipt weights (part 2), and whether the Crane scale weight is “Net” or “Gross” (part 3)

Response to Additional Comment 5, Part 1

After careful review of all waste manifests and Toltest Daily Reports, the text of the original response and the revisions to Table H-1 have been determined to be incorrect. The text and table have been revised to correctly reflect activities that took place at SWMU 13 during March 2010.

To provide context for our response, the events leading up to the excavation and corresponding disposal that took place in Area 2A between March 15 and 19, 2010, are summarized below.

After receiving a preliminary laboratory result (8 mg/kg) that was less than the 25 mg/kg cleanup goal for subsurface composite sample 13SOCF021A from Area 2, the area was filled in. After the area was filled in, a final validated result (180 mg/kg) that exceeded the 25 mg/kg cleanup goal for sample 13SOCF021A was reported. To delineate the extent of contamination associated with 13SOCF021A, Tetra Tech re-collected the four aliquots comprising sample 13SOCF021A to create a new composite sample, 13SOCF064. The four aliquots were collected as close as possible to the original four aliquots from 13SOCF021A by using a global positioning system to relocate the positions of the original four aliquots. Tetra Tech then hand augured through the top 2 ft of fill to collect the four aliquots from 2 to 4 feet bgs. A portion of each aliquot was retained for separate analysis, if necessary.

The final laboratory result for the new composite sample, 13SOCF064, exceeded the 25 mg/kg cleanup goal so each of the four retained aliquots was analyzed separately to determine the extent of excavation required to remove the PCB contamination exceeding 25 mg/kg. The PCB concentration in three of the four aliquots was less than 25 mg/kg but one aliquot, 13SOF064D, had a PCB concentration (101 mg/kg)

that exceeded 25 mg/kg. Soil from 2 to 3 ft bgs in the area located immediately around this aliquot was designated as TSCA waste. This area comprised approximately one-fourth of the area represented by the original composite sample, 13SOCF021A.

To support excavation of the subsurface, surface soil had to be removed first. The Navy excavated and disposed of the top 2 feet of soil as non-TSCA rather than stockpiling it on site for use as fill. The volume of surface soil to be removed from this area was estimated to be approximately one truck load (about 20 tons). During excavation at Area 2A, however, four truckloads of non-TSCA soil were disposed. Based on the volume of non-TSCA material disposed of from Area 2A on March 15 and 16, 2010, Tetra Tech has concluded that all of the surface soil (from 0-2 ft bgs) from around sample 13SOCF021A/ 13SOCF064 had been excavated and removed instead of just one quarter of the area. The draft report incorrectly stated that all soil from Area 2A, Round 1, was non-TSCA and was transported in four loads to the non-TSCA landfill. These four non-TSCA loads comprised only the top two feet of soil in Area 2A, ***not*** the top three feet of soil as documented in the draft report.

The TSCA material present from 2 to 3 feet bgs in Area 2A was excavated on March 17, 2010, and disposed of at Heritage Landfill (the TSCA landfill). The draft report incorrectly stated that two loads of TSCA material were excavated from Area 5A (the Building 169 sump and culvert), when instead it should have stated that one TSCA load came from Area 2A and one TSCA load came from Area 5A.

Based on the information provided above, Section 3.2.7, the first three paragraphs of Section 3.2.7.1, Section 3.2.12, and a portion of 3.2.12.1 have been revised as follows:

"3.2.7 Area 2A (Building 171 Additional Excavation)

The following is a summary of the samples collected and the amount of material disposed of from Area 2A.

Area	***Excavation Round***	***Samples Collected***	***Samples Field Tested***	***Samples Sent to Lab***	***TSCA Material Disposed (tons)[1]***	***Non-TSCA Material Disposed (tons)[1]***	***Incoming Backfill Material (tons)***
2A	*1*	*4*	*2*	*2*	*20.66*	*89.76*	*NA*
2A	*2*	*5*	*0*	*5*	*91.25*	*0*	*NA*
2A	*3*	*32*	*32*	*30*	*236.23*	*208.46*	*NA*
2A	*4*	*8*	*5*	*8*	*17.85*	*192.90*	*NA*
2A	*5*	*3*	*2*	*3*	*0*	*41.20*	*NA*
2A	*Exploratory*	*117*	*16*	*101*	*0*	*0*	*None*
Total	*6*	*169*	*57*	*149*	*365.99*	*532.32*	*NA*

Notes
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA = Not Applicable (material obtained from an on-site source, or source unknown)."

"3.2.7.1 Area 2A (Building 171 Additional Excavation), Round 1

Round 1 Excavation and Off-Site Disposal

Area 2A initial excavation limits were established around the Area 2 grab sample aliquot (13SOF064D) that exceeded the cleanup goal. As discussed in Section 3.2.6.1, Tetra Tech hand augured through the fill to a depth of 2 ft bgs to collect four new grab samples at the same

locations as the four grab samples comprising composite sample 13SOCF021A. Sample 13SOCF021A ~~was~~ had been collected previously and exhibited elevated PCB concentrations. A new composite sample was formed from these four new grab samples and was labeled 13SOCF064A.

On March 15 through 19, 2010, TolTest completed the Area 2A initial excavation to 3 feet bgs, as shown on Figure 3-15. The Area 2A initial excavation consisted of only three walls because what would have been a fourth wall bordered the Area 2 excavation that had been verified to be clean (Figure 3-15). The top two feet of non-TSCA soil was excavated on March 15 and 16, 2010, and direct-loaded for transport to the landfill. TSCA soil from two to three feet bgs was excavated on March 17, 2010, and direct-loaded for transport to the landfill. The daily reports for March 18 and 19, 2010, indicate that Toltest completed work at Building 171 on these dates. Because Toltest did not transport any soil to a landfill during this time, it is ~~assumed~~ concluded that this work was not excavation related (i.e. site clean~~-~~up and grading).

On March 15 and 16, 2010, four loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 89.76 tons of non-TSCA soil was disposed of during Round 1. On March 17, 2010, one load of TSCA soil was transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 20.66 tons of TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I)."

"3.2.12 Area 5A (Building 169 Sump and Culvert)

The following is a summary of the samples collected and the amount of material disposed of from Area 5A.

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Incoming Backfill Material (tons)
5A	1	9	0	9	21.71	0	NA
5A	Exploratory	1	0	1	0	0	None
Total	2	10	0	10	21.71	0	NA

Note
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA = Not Applicable (material obtained from an on-site source)."

"3.2.12.1 Area 5A (Building 169 Sump and Culvert), Round 1

…

Round 1 Excavation and Off-Site Disposal

On January 26, 2009, TolTest power-washed the culvert upstream of the Building 169 drainage channel (Figure 3-33). On March 17, 2010, TolTest demolished the sump (Figure 3-34) and one load of TSCA sediment and concrete was transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 21.71 tons of TSCA

soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I)."

The weight of non-TSCA soil disposed in Sections 3.2.2 and 4.1 has been revised to 4,161.1 tons. Weights in Table 3-1 have been revised based on the above information in revised Sections 3.2.7 and 3.2.12.

Table H.1 has been revised as follows to indicate that the four loads of soil from March 15 and 16 that were incorrectly changed in the draft final version of Table H.1 to TSCA disposal at Heritage actually were disposed of as non-TSCA soil at Sycamore Ridge Landfill. Additionally, in the revised version of Table H.1 shown below, these loads have been assigned to Building Area 2A and Round 1 rather than "Unknown" for Building Area and Round. Additional changes made to Table H.1 are discussed in the other parts of this response and are not shown below.

Truck Number (1)	Date	Time (2)	Manifest #	Crane Scale Non Hazardous Net Weight (lbs.)	Crane Scale TSCA Net Weight (lbs.)	Incoming Fill Dirt Net Weight (lbs.)	Clean Harbors Non-Hazardous (gal)	Republic Scale Non Hazardous Net Weight (lb.)	Heritage Scale TSCA Hazardous Net Weight (lbs.)	Tare Weight (lbs.) (4)	Building Area	Round
46	3/15/2010	12:42	169	41,760	NA	NA	NA	42,560	NA	27,300	2A	1
46	3/16/2010	7:08	171	45,940	NA	NA	NA	46,740	NA	27,240	2A	1
46	3/15/2010	8:24	168	45,800	NA	NA	NA	46,640	NA	27,300	2A	1
45	3/15/2010	8:20	167	46,020	NA	NA	NA	46,680	NA	26,880	2A	1

Response to Additional Comment 5, Part 2

All Heritage (TSCA landfill) scale weights were provided on the original version of Table H.1. Heritage weights were obtained from the manifest, where both the Crane scale weight and the Heritage scale weight were always noted. Table H.1 has been revised to include an "NA" in cells where that particular information is not applicable, such as when a Heritage scale weight is not applicable because the manifest is for soil transported to the other landfill (Republic).

Republic scale weights are available for 146 of the 184 loads disposed of at Republic (non-TSCA landfill). Republic scale weights for 116 of the 146 available weight records were obtained from the Toltest

February 12, 2009~~,~~ daily reports because no original Republic weight ticket was provided. The remaining 30 Republic scale weights provided in Table H.1 are from the Republic weight tickets provided by Toltest.

Footnotes have been added to Table H.1 to indicate the origins of scale weights. The symbol "--" has been added to Table H.1 for the 38 Republic loads for which no corresponding Republic scale weight could be obtained. Additionally, the following sentences have been added after the first sentence in the 4th paragraph of Section 3.2.2:

> *"All weights included in this report are net weights (i.e. only for soil disposed) obtained from the Crane scale. ~~Even~~ Although TSCA landfill scale weights were provided on the manifests, a small number of non-TSCA landfill weight tickets could not be obtained from the landfill. To be consistent, Crane scale weights were used for both non-TSCA and TSCA soil even though TSCA landfill scale weights were known. See the table in Appendix H for detailed information regarding manifests."*

Response to Additional Comment 5, Part 3

The table has been reformatted so that no cells are blank. Detailed footnotes have been included to document the source of information in the table.

The Crane scale weights are correctly noted as "net". The discrepancy between the Crane non-TSCA soil scale weights and the landfill non-TSCA scale weights is due to the 38 loads for which landfill weight tickets could not be obtained. All weights used in the IM report are net weights obtained from the Crane scale. See the Response to EPA Additional Comment 5, Part 2, for language added in Section 3.2.2 to clarify this point. The phrase "net weight" has been added to the column header in columns E through J to clarify that Crane scale weights and landfill scale weights provided are net weights rather than gross weights. The "Tare Weight" column of Table H.1 was included for informational purposes only and should not be subtracted from weights in the table.

As part of addressing EPA's comment to reformat the table, all manifests and weight tickets have been carefully checked against the table to aid in reformatting (i.e., to help assign the correct footnotes). During this process, one notable error was found and has been corrected. The response to comment 4 indicates there were two manifests missing from Table H.1 but these had not been added to the table. These two manifests have now been added to the table for Area 1B, Round 1 (manifests 132 and 123 on January 22, 2009). ~~Minor~~ Less significant errors, such as incorrect truck numbers, incorrect manifest numbers, small weight errors, incorrect times, etc… were corrected but these changes are not specifically noted.

Comment 6: Referring to the last sentence on page 3-28 beginning "The contamination found...", where did the contaminated soil used for backfilling come from?

Response to Comment 6: The second sentence in the last paragraph on page 3-28 has been revised as follows to clarify the origin of the contaminated soil used for backfilling:

> *"The location of the contaminated material used as backfill was never determined exactly; however, it is likely that the material came from a small mound adjacent to the Area 2 excavation, just outside of the original excavation boundaries developed in the SWMU 13 IMWP. Prior to site grading activities, there was a small mound-shaped area outside of the Area 2 excavation, between the road and sample locations 13SOCW036 and 13SOCW037 shown on Figure 3-14. After confirmation samples indicated that all PCB-contaminated soil had been removed from Area 2 excavations, site grading was completed and soil in the mound was graded into the excavation to create a level grade at the site. During the Area 2A excavation and sampling, it was discovered that contaminated material remained in subsurface areas where the mound was previously located. It was then assumed that the mound, and the areas directly surrounding it, contained PCB-contaminated soil which had been graded into the Area 2 excavation."*

EPA Additional Comment on Response to Comment 6: Please confirm that the backfilled impacted soil and the area where the soil mound was located was addressed as part of the Area 2A excavation.

Response to Additional Comment 6

The area where the soil mound was located and all contaminated backfill were delineated and excavated as part of the Area 2A excavation. IMR Figure 3-21 displays the Area 2A final excavation limits and the PCB concentrations for all confirmation samples collected on the final excavation limits. The concentrations of all confirmation samples collected on the final excavation limits are less than the cleanup goals.

Comment 7: Referring to Section 3.2.7.3, Area 2A: how was > 50 ppm and < 50 ppm material segregated for excavation and disposal at this area?

Response to Comment 7: The initial limits of TSCA (>50 ppm) and non-TSCA (≤50 ppm) soil were delineated using the exploratory DPT samples shown on Figure 3-17 and discussed in the subsection titled May and June Exploratory Sampling Events on page 3-28. Confirmation samples were collected after excavation of the initial limits of TSCA soil (based on the exploratory DPT sampling event) and were tested using PCB field test kits to determine whether all TSCA soil had been removed during the initial excavation. If confirmation sample results indicated that TSCA soil remained, further excavation was completed and confirmation samples were collected and tested using PCB field test kits. All TSCA soil was direct loaded onto trucks and transported to a TSCA landfill for disposal. After confirmation sample results indicated that all TSCA soil had been removed, non-TSCA soil was excavated and direct loaded onto trucks for transport to a non-TSCA landfill for disposal.

The following sentence has been added after the first sentence of the first paragraph in Section 3.2.7.3:

> *"Initial limits of TSCA soil were delineated based on the results of the May and June exploratory sampling events."*

The original second sentence of the first paragraph in Section 3.2.7.3 has been revised as follows:

> *"Soil excavated on July 8 and 9, 2010 was direct-loaded for transport to the landfill."*

The following sentences has been added after the first sentence of the second paragraph in Section 3.2.7.3 and after the first sentence of the subsection Round 4 Verification Sample Collection and Results in Section 3.2.7.4:

> *"In areas where TSCA soil had been excavated, confirmation sample results were used to confirm the removal of TSCA soil."*

Comment 8: Figure 3-29: Should the sample location ending "64A" read 9.5 versus 0.95?

Response to Comment 8: The result for the sample location ending in "64A" on Figure 3-29 should read 0.95. The 0.95 mg/kg result was based on a PCB field test kit, and based on our extensive project experience using PCB field test kits, test kit results near the detection limit of 0.5 mg/kg could be as high as 1 to 1.5 mg/kg. Since our result was 0.95 mg/kg, we assumed the true PCB concentration was greater than 1 mg/kg, but less than 50 mg/kg. Based on this assumption, the area around this sample was excavated and disposed of off-site as non-TSCA material. No change has been made in response to this comment.

Comment 9: Table 3-2: It may be helpful to denote those shaded results exceeding cleanup goals were excavated and identify the follow up verification sample to confirm cleanup goals were met.

Response to Comment 9: The requested information has been added to Tables 3-2 through 3-12. The changes appear as revised footnotes in the tables.

3.0 EXCAVATION AND SAMPLING ACTIVITIES

3.1 PURPOSE

The purpose of this section is to present TolTest's IM excavation activities and Tetra Tech's post-excavation sample results used to confirm that no further removal of soil or sediment from SWMU 13 is required to satisfy regulatory requirements. The IMWP for SWMU 13 – MFB (Tetra Tech, 2008) described initial excavation limits and sampling locations and provided requirements for the excavation and off-site disposal of contaminated soil from SWMU 13. Figures 1-6 and 1-7 present the initial excavation limits for SWMU 13. QAPP Addendum No. 1 (Tetra Tech, 2006) described sampling methods and rationales for the sampling activities conducted in support of the IM at SWMU 13. Details regarding the environmental sampling, including sampling locations and analyses, are provided in this section. Photographs taken during the remedial activities are presented in Appendix A.

3.2 EXCAVATION, SAMPLE COLLECTION AND RESULTS, OFF-SITE DISPOSAL, AND BACKFILLING

The following is a summary of the excavation, sample collection, sample results, and off-site disposal that occurred at SWMU 13 – MFB. Table 3-1 contains a summary of the number of samples collected and the amount of material disposed for each area during each round of sampling and excavation. Sections 3.2.3 through 3.2.13 provide information regarding the excavation, sampling, results, off-site disposal, and backfilling specific to each area and round of excavation.

Implementation of the IM included the excavation and off-site disposal of soil and sediment contaminated with PCBs from the 10 excavation areas (not including support areas), which are displayed on Figure 3-1. Excavation areas were originally determined in the SWMU 13 IMWP, as shown on Figures 1-6 and 1-7. The Navy chose to complete additional removal actions at SWMU 13 not included in the SWMU 13 IMWP. Specifically, additional removal actions were completed in the Building 166 trenches and the Building 169 sump (Areas 1B and 5A on Figure 3-1, respectively). ~~Sediment collected from the Building 166 trenches and debris from the demolition of Building 166 and its trenches were disposed of as part of a larger SWMU 13 project that will be summarized by TolTest under separate cover.~~ Disposal of sediment collected from the Building 166 trenches and sediment and debris from the demolition of the Building 169 sump is summarized in Areas 1B (Section 3.2.5) and 5A (Section 3.2.12), respectively~~Sediment and debris from the demolition of the Building 169 sump is summarized in this report as part of Area 5A. Additionally, removal of the sediment pile located in the tunnel that connects~~

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~~Buildings 171 and 169 is included as part of the Area 2, Building 171 excavation~~. The total soil disposed of for Area 2 includes material from this sediment pile.

3.2.1 Verification Sampling Procedure

As discussed in Section 1.0, the cleanup goals for this SWMU 13 IM were the TSCA High Occupancy Standard (1 mg/kg) in surface soils (0 to 2 feet bgs) and drainage channels regardless of depth, and the TSCA Low Occupancy Standard (25 mg/kg) for subsurface soils (2 feet bgs and deeper). During excavation at Area 1A, the Navy decided to use the TSCA Low Occupancy Standard (25 mg/kg) as the cleanup goal for both surface soils (0 to 2 feet bgs) and subsurface soils (2 to 4 feet bgs) due to widespread PCB contamination greater than 1 mg/kg in Area 1A surface soil. Tetra Tech collected soil and sediment samples from within the excavation areas and wipe samples from the surfaces of cleaned culverts and trench drains to verify the removal of soils and sediments with PCB concentrations in excess of cleanup goals. Additionally, Tetra Tech collected samples from surface soils located beneath support facilities (decontamination pad, dewatering pad(s), and material storage area) and the surfaces of the temporary access roads after IMWP implementation was complete to ensure that IMWP implementation did not contaminate support facility areas.

Verification soil and sediment samples were composite samples as described in the QAPP (Tetra Tech, 2006). Each composite sample was made up of soil or sediment collected from four aliquots. The verification samples were analyzed for total PCBs. In the soil excavation areas, verification samples were collected from the excavation sidewalls and excavation floor at a minimum rate of one composite floor sample for every 1,000 square feet (sf) of exposed surface area, with one sample collected from each depth interval, and one composite sidewall sample for every 25 linear feet of exposed sidewall, with a minimum of one sample collected from each directionally facing sidewall. In the drainage channel excavations, verification samples were collected from the exposed drainage channel base and sidewalls and the exposed overflow area floors. Due to the irregular shape of the drainage channel excavation, two verification samples were collected from the exposed overflow floor areas located on each side of the channel, two verification samples were collected from the two exposed drainage channel sidewall surfaces, and one verification sample was collected along the exposed drainage channel base. These five verification samples, each containing four aliquots, made up one set of verification samples. At a minimum, one set of verification samples was collected from each drainage channel segment. Where the drainage channel length allowed, one set of verification samples was collected for every 100 linear feet of drainage channel excavation.

The frequency of verification samples collected from the soils located beneath the support facilities after IMWP implementation was completed was the same as that for excavation samples (one verification sample for every 1,000 square feet of area disturbed). Due to the nature of the support facilities, side wall samples were not included in the support facility verification sampling program. In addition, verification samples were collected from the temporary access roads. Verification samples were collected at a rate of one composite sample for every 1,000 square feet of temporary access road. Each composite sample was made up of soil collected from four aliquots. A minimum of one verification sample was collected from each length of temporary access road. The results of these verification samples were evaluated to determine if PCB contamination was introduced to the temporary access trails or the surface soils below the foot print of the support facilities at concentrations greater than 1 mg/kg.

Verification wipe samples were collected from each end of all cleaned culverts and drain pipes. Verification wipe samples were also collected from the floors and walls of the trench drains that conveyed water from Building 171 to the sump located northwest of Building 171 at a rate of 3 wipe samples (1 on the floor of the trench and 1 from each trench wall) per every 50 feet of trench drain. Verification wipe sampling was not performed on the Building 166 trenches because Building 166 and its trenches were scheduled to be demolished by TolTest. All collected verification wipe samples were analyzed for total PCBs and the results of the verification wipe samples were compared to 10 µg of total PCB per 100 square centimeters. Procedures for the collection of wipe samples are presented in the QAPP (Tetra Tech, 2006).

3.2.2 Excavation, Off-Site Disposal, and Backfill Summary

Excavation at SWMU 13 began November 3, 2008, and was completed July 19, 2010. TolTest initially excavated to the proposed limits shown in the SWMU 13 IMWP. Tetra Tech collected verification samples as described above and in accordance with the IMWP, and completed field tests on the majority of the samples using Rapid Assay PCB test kits to determine whether the samples should be sent to a fixed-base laboratory or whether further excavation was required. If the results of the Rapid Assay PCB test kit indicated that the PCB concentration of a sample did not exceed the cleanup goal of 1 part per million (ppm) in a surface soil or sediment verification sample, or 25 ppm in a subsurface soil verification sample, Tetra Tech sent the sample to a fixed-base laboratory to confirm the result of the field test. Verification samples on which field tests were not completed were also sent to the fixed-base laboratory to determine PCB concentration. If the PCB concentration of a sample exceeded the cleanup goal, the Navy directed TolTest to expand the excavation. Tetra Tech then collected verification samples on the newly exposed excavation floors and sidewalls. This process continued until fixed-base laboratory

verification sample results were below the cleanup goals. The Navy directed TolTest to backfill each excavation either using material from another part of the site or from an off-site source.

The final excavation limits for all 10 excavation areas are shown on Figure 3-1. Appendix B contains the fixed-base laboratory verification sample results, data validation reports, and chain of custody forms. Appendix C contains tables that summarize the verification sample results by area. Appendix D contains Tetra Tech's sample logsheets. Appendix E contains both photocopied pages from Tetra Tech's field logbook and typed field notes summarizing the dates for which the field logbook was not available.

Waste disposal characterization of soil and sediments was based on in-situ sample results collected during historical investigations, which are summarized in the SWMU IMWP (Tetra Tech, 2008). The segregation and off-site disposal of excavated material was based on these in-place soil and sediment concentrations. These in-situ sample results were used to ensure that non-TSCA (≤50 mg/kg) and TSCA materials (>50 mg/kg) were segregated prior to disposal~~TolTest collected samples from the material excavated for the purpose of waste disposal characterization to determine whether the waste soil/sediment met the facility's waste acceptance criteria. All samples were analyzed using the methods in the approved QAPP (Tetra Tech, 2006) and in accordance with the methods required by the NSA Crane approved waste disposal facility. The waste characterization samples were submitted to Microbac Analytical for analysis. A copy of these results can be found in Appendix F.1.~~

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Off-site transportation of 4,161.1 ~~4,113.5~~ tons of non-TSCA (< 50 mg/kg) soil/sediment and 1,353.89 tons of TSCA (≥ 50 mg/kg) soil/sediment excavated at SWMU 13 was completed by U.S. Bulk Transport, Inc. (Table 3-1). All weights included in this report are net weights (i.e. only for soil disposed) obtained from the Crane scale. ~~Even~~ Although TSCA landfill scale weights were provided on the manifests, a small number of non-TSCA landfill weight tickets could not be obtained from the landfill. To be consistent, Crane scale weights were used for both non-TSCA and TSCA soil even though TSCA landfill scale weights were known. See the table in Appendix H for detailed information regarding manifests. Non-TSCA soil/sediment was transported via dump truck to Sycamore Ridge Landfill in Pimento, Indiana. TSCA soil/sediment was transported via dump truck to Heritage Environmental Services, LLC in Roachdale, Indiana. As directed by the Navy, TolTest backfilled the majority of the excavation areas to the original, pre-excavation grades and regraded some areas to match the surrounding grade. As directed by the Navy, the majority of backfill TolTest used to fill the excavations at SWMU 13 was obtained from on-site sources. A total of 538.24 tons of backfill was transported by William Hanna Trucking, Inc. to SWMU 13 from Ingram Quarry in Springville, Indiana. TolTest only provided backfill weight tickets for material brought to the site June 25, 2009.

Appendix G contains the waste disposal facility permits. Appendix H contains a table with detailed information for each load of material disposed of from SWMU 13. Note that TolTest's daily reports (Appendix I) and manifests/weight tickets (Appendix J.1) were used in conjunction with Tetra Tech's field logbook (Appendix E) to assign each load to a specific area and excavation round. Appendix F.2 contains analytical results for off-site backfill and Appendix J.2 contains the backfill weight tickets provided by TolTest.

3.2.3 Area 1 (Building 166)

The following is a summary of the verification samples collected and the amount of material disposed of from Area 1:

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Water Disposed (gallons)	Incoming Backfill Material (tons)
1	1	18	18	13	0	233.79	5180	NA
1	2	8	8	6	0	186.89	0	NA
1	3	3	2	3	0	64.30	0	NA
1	Exploratory	7	4	5	0	0	0	None
Total	4	36	32	27	0	484.98	5180	0

Notes
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not applicable (material obtained from an on-site source).

3.2.3.1 Area 1 (Building 166), Round 1

Round 1 Excavation and Off-Site Disposal

TolTest completed the Area 1 initial excavation (Round 1) on November 3 through 5, 25, 26, and December 5, 2008. During Round 1, TolTest excavated soil to the limits indicated on Figure 3-2. This soil was hauled to the SWMU 13 stockpile located near Building 2502 for staging and off-site disposal at a later time.

On November 17 and December 29, 2008, nine loads and one load, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 233.8 tons of non-TSCA soil was removed for disposal during the initial excavation. The Navy directed TolTest to leave the Area 1 initial excavation open to allow Tetra Tech to collect verification

samples and wait for the results of these samples before backfilling. On November 21, 25, December 23, 2008, and January 17, 2009, TolTest pumped approximately 5,180 gallons of water from the Area 1 excavation. This water was transported by Clean Harbors Environmental Services, Inc. to Spring Grove Resource Recovery, Inc. in Cincinnati, Ohio for disposal. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. More information about TolTest's Round 1, Area 1 site activities can be found in the November 3 through 5, 17, 21, 25, 26, December 5, 23, and 29, 2008, and January 17, 2009, daily reports (Appendix I).

Round 1 Verification Sample Collection and Results

On November 5 and December 3 and 5, 2008, Tetra Tech collected 18 verification composite samples, consisting of five floor samples and 13 wall samples, from the Area 1 initial excavation (Figure 3-2). The following is a list of the Area 1, Round 1 verification samples:

13SOCF001A	13SOCW005A
13SOCF002A	13SOCW006A
13SOCF003A	13SOCW007A
13SOCF016B	13SOCW008A
13SOCF026B	13SOCW009A
13SOCW001A	13SOCW010A
13SOCW002A	13SOCW011A
13SOCW003A	13SOCW012A
13SOCW004A	13SOCW013A

As indicated in the IMWP, each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. Based on the test kit results, the five floor samples and eight of the 13 wall samples were sent to the lab to confirm the results of the field tests. All five floor samples (13SOCF001A, 13SOCF002A, 13SOCF003A, 13SOCF016B, and 13SOCF026B) and five of the eight wall samples (13SOCW003A, 13SOCW004A, 13SOCW005A, 13SOCW011A, and 13SOCW012A) were verified clean by the fixed-base laboratory.

The results of the remaining field test kit and fixed-base laboratory samples (13SOCW001A, 13SOCW002A, 13SOCW006A through 13SOCW010A, and 13SOCW013A) contained concentrations of PCBs greater than the clean-up goals. Based on these results, the Navy directed TolTest to expand the excavation in the areas where these wall samples were collected. Appendix C.1 contains test kit and laboratory results for all samples collected at Area 1.

3.2.3.2 Area 1 (Building 166), Round 2

Round 2 Excavation and Off-Site Disposal

TolTest completed the Round 2 excavation November 25, 26, and December 5, 2008. Based on the Round 1 verification sample results discussed above, the excavation was expanded in the following directions, as shown on Figure 3-3:

- 2 feet southeast and southwest, beyond locations 13SOCW006A, 13SOCW007A, and 13SOCW010A;
- 4 feet north, beyond locations 13SOCW001A, 13SOCW002A, and 13SOCW013A; and,
- 13 feet of railroad track was removed to expand the excavation at locations 13SOCW008A and 13SOCW009A.

This soil was hauled to the SWMU 13 stockpile located near Building 2502 for staging and off-site disposal at a later time.

On December 29, 2008, a total of eight loads of non-TSCA stockpiled material were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 186.9 tons of non-TSCA soil was removed for disposal during the Round 2 excavation. The Navy directed TolTest to leave the excavation open to allow Tetra Tech to collect verification samples and wait for the results of these samples before backfilling. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. More information about TolTest's Area 1, Round 2 site activities can be found in the November 25, 26, December 5, and 29, 2008, daily reports (Appendix I).

Round 2 Verification Sample Collection and Results

On December 3 and 5, 2008, Tetra Tech collected eight verification samples, consisting of one floor sample and seven wall samples, from the Area 1, Round 2 excavation (Figure 3-3).

The following is a list of the Area 1, Round 2 verification samples:

13SOCF017A	13SOCW039A
13SOCW030A	13SOCW040A
13SOCW031A	13SOCW041A
13SOCW032A	13SOCW042A

Each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the samples should be sent to a fixed-base laboratory or whether further excavation was required. Based on the test kit results, the floor sample (13SOCF017A) and five of the seven wall samples (13SOCW030A, 13SOCW032A, 13SOCW039A, 13SOCW041A, and 13SOCW042A) were sent to the fixed-base laboratory to confirm the results of the field tests. All six samples were verified clean by the fixed-base laboratory.

The test kit results for samples 13SOCW031A and 13SOCW040A contained concentrations of PCBs greater than cleanup goals. Based on these results, the Navy directed Tetra Tech to collect step-out hand auger samples to determine the extent of contamination remaining at Area 1 after Round 2 prior to recommending any additional excavation. Appendix C.1 contains test kit and laboratory results for all samples collected at Area 1.

3.2.3.3 Area 1 (Building 166), Round 3

Step-out Sample Collection and Results

The Navy directed Tetra Tech to collect a total of nine step-out hand auger samples near sample locations 13SOCW031A and 13SOCW040A (Figure 3-4) to determine the extent of contamination remaining at Area 1 after Round 2 prior to completing Round 3 excavation. The step-out hand auger samples were collected December 18 and 30, 2008, and January 7, 2009.

The following is a list of the Area 1, Round 3 exploratory samples:

13SOCW043A	13SOCW059A
13SOCW044A	13SOCW060A
13SOCW045A	13SOCW061A
13SOCW053A	13SOCW062A
13SOCW058A	

Composite samples 13SOCW058A, 13SOCW059A, 13SOCW060A, 13SOCW061A, 13SOCW062A, and 13SOCW073A were field-tested using the Rapid Assay PCB Test Kit to determine whether the samples

should be sent to a fixed-base laboratory or whether further excavation was required. Composite samples 13SOCW043A, 13SOCW044A, 13SOCW045A, and 13SOCW053A were not field-tested and were sent directly to the fixed-base laboratory. Seven of the nine step-out hand auger samples were sent to the fixed-base laboratory for verification. The two remaining step-out samples (13SOCW058A and 13SOCW059A) were not sent to the fixed-base laboratory for verification because step-out samples collected beyond them were sent to the lab. Three step-out hand auger samples (13SOCW043A, 13SOCW060A, and 13SOCW061A) were verified clean by the laboratory; the remaining samples exceeded criteria.

In the southwest portion of Area 1, the fixed-base laboratory results for 13SOCW043A and 13SOCW060A contained PCB concentrations less than clean-up goals. In the northwest portion of Area 1, the fixed-base laboratory results for 13SOCW062A (the furthest step-out sample) contained PCB concentrations above cleanup goals. Based on these results, the Navy directed TolTest to expand the excavation in these areas, as described below.

Round 3 Excavation and Off-Site Disposal

TolTest completed the Round 3 excavation on January 17 and 19, 2009, based on the results of the Round 2 verification samples and the step-out samples. The Navy directed TolTest to expand the excavation in the following directions, and as shown on Figure 3-4:

- Two feet bgs to samples 13SOCW043A and 13SOCW060A; and,
- Two feet bgs 2 feet northwest of sample13SOCW062A.

Soil excavated January 17, 2009, was hauled to the SWMU 13 stockpile located near Building 2502 for staging and off-site disposal at a later time. Soil excavated January 19, 2009, was hauled directly to the landfill.

On January 19, 2009, three loads of non-TSCA soil, containing both the stock-piled material and direct-loaded material, were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 64.3 tons of non-TSCA soil was removed for disposal during Round 3 excavation. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. More information about TolTest's Round 3, Area 1 site activities can be found in the January 17 and 19, 2009, daily reports (Appendix I).

Round 3 Verification Wall Sample Results

On December 18, 2008, January 7, and 22, 2009, Tetra Tech collected a total of three Round 3 verification samples. Two of these verification samples were step-out hand auger samples used as Round 3 verification samples and one was a wall sample collected from the excavation expanded northwest, beyond 13SOCW062A.

The following is a list of the Area 1, Round 3 verification samples:

13SOCW043A	13SOCW060A	13SOCW073A

13SOCW043A was sent to the fixed-base laboratory without completing a field test. Samples 13SOCW060A and 13SOCW073A were field-tested using the Rapid Assay PCB Test Kit to determine whether to send the samples to a fixed-base laboratory or whether further excavation was required. Although the test kit results for 13SOCW073A were above the clean-up goal, the sample was sent to the fixed-base laboratory for verification.

All three samples were sent to the fixed-base laboratory. Both 13SOCW043A and 13SOCW060A were verified clean by the fixed-base laboratory. The fixed-base laboratory result for 13SOCW073A (420 ppm) was significantly higher than the previous maximum sample result in this area (24 ppm at 13SOCW001A). The Navy directed Tetra Tech to develop a sampling plan to address the remaining contamination at Area 1. This sampling plan resulted in the development of a new excavation area, described as Area 1A. Activities performed at Area 1A are discussed in Section 2.3.4 of this report.

Figure 3-5 shows Area 1 final excavation limits, the IMWP proposed excavation limits, and verification sample results used to define the final excavation extent. The survey provided by TolTest was a grading limit survey, not a final excavation limit survey. Therefore, the final excavation limits and locations of all verification samples were determined using a combination of global positioning system (GPS) points collected by Tetra Tech, Tetra Tech field sketches and notes, and survey data provided by TolTest. Appendix C.1 contains test kit and laboratory results for all samples collected at Area 1. Table 3-2 contains laboratory sample results used to verify that the final excavation limits were below the cleanup goals at Area 1.

Area 1 Excavation Backfilling

On February 3, 2009, TolTest was directed by the Navy to use material obtained from a source near the excavation as backfill; no backfill material was brought from off-site to fill the Area 1 excavation. Geotextile was placed in the area of the excavation near 13SOCW073A to separate clean backfill from contaminated soil at this location. See the February 3, 2009, daily report in Appendix I for more information.

3.2.4 Area 1A (Building 166 Additional Excavation)

The following is a summary of the verification samples collected and the amount of material disposed of from Area 1A:

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Non-TSCA Water Disposed (gallons)	Incoming Backfill Material (tons)
1A	1	22	0	22	46.49	416.64	6900	333.63
1A	2	6	0	6	0	6.63	0	NA
1A	3	3	0	3	2.12	0	0	NA
1A	Exploratory	78	43	10	0	0	0	None
Total	4	109	43	41	48.61	423.27	6900	333.63

Notes
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not Applicable (material obtained from an on-site source).

3.2.4.1 Area 1A (Building 166 Additional Excavation), Round 1

Exploratory Sampling

The Navy directed Tetra Tech to develop a sampling plan to delineate the extent of the contamination remaining at Area 1 (Area 1A), particularly in the area around sample 13SOCW073A. In addition to the remaining contamination at 13SOCW073A, the sampling plan included sampling in an area to determine whether soil graded into the excavation included contaminated soil.

Figure 3-6 shows the approximate location of the 34 direct-push technology (DPT) borings collected to delineate the extent of contamination at Area 1A. Ten of these borings were located in the Area 1 excavation, which was backfilled with on-site material. The remaining 24 borings were located in areas

that had not been excavated previously. This sampling plan resulted in the development of the Area 1A excavation limits (Figure 3-7).

On April 8, 2009, Tetra Tech collected 68 DPT samples at 34 locations (one sample from 0- to 2 feet bgs and one sample from 2- to 4 feet bgs at each location). The following is a list of the 48 DPT Exploratory Samples collected from Area 1A:

13SB1090002	13SB1150002	13SB1210002	13SB1270002
13SB1090204	13SB1150204	13SB1210204	13SB1270204
13SB1100002	13SB1160002	13SB1220002	13SB1280002
13SB1100204	13SB1160204	13SB1220204	13SB1280204
13SB1110002	13SB1170002	13SB1230002	13SB1290002
13SB1110204	13SB1170204	13SB1230204	13SB1290204
13SB1120002	13SB1180002	13SB1240002	13SB1300002
13SB1120204	13SB1180204	13SB1240204	13SB1300204
13SB1130002	13SB1190002	13SB1250002	13SB1310002
13SB1130204	13SB1190204	13SB1250204	13SB1310204
13SB1140002	13SB1200002	13SB1260002	13SB1320002
13SB1140204	13SB1200204	13SB1260204	13SB1320204

The following is a list of the 20 DPT samples collected from Area 1 backfill:

13SB1330002	13SB1350204	13SB1380002	13SB1400204
13SB1330204	13SB1360002	13SB1380204	13SB1410002
13SB1340002	13SB1360204	13SB1390002	13SB1410204
13SB1340204	13SB1370002	13SB1390204	13SB1420002
13SB1350002	13SB1370204	13SB1400002	13SB1420204

The 34 samples collected from 0- to 2 feet bgs were field-tested using the Rapid Assay PCB Test Kit. If the outcome of the field test was a non-detect result, then the sample taken from 2- to 4 feet bgs at the same location was not field-tested. If the field-test on the 0- to 2 foot bgs sample resulted in a PCB detection, then the 2- to 4 feet bgs sample from the same location was field-tested.

PCBs were detected in nine of the 34 samples from 0- to 2 feet bgs (13SB1110002, 13SB1220002, 13SB1290002, 13SB1320002, 13SB1360002, 13SB1370002, 13SB1380002, 13SB1390002, and 13SB1410002). Five of these detections were from Area 1 backfill samples (13SB1360002, 13SB1370002, 13SB1380002, 13SB1390002, and 13SB1410002) and four were from exploratory

samples (13SB1110002, 13SB1220002, 13SB1290002, and 13SB1320002). PCBs were not detected in any of the samples from 2- to 4 feet bgs. Based on the test kit results for these nine 0- to 2 feet bgs samples and the sample collected in Area 1 during Round 3 (13SOCW073A), the Navy directed TolTest to excavate the areas shown on Figure 3-7. The Navy determined that they would not be able to obtain residential cleanup levels at Area 1A in a cost-effective manner, so the industrial cleanup goal of 25 ppm for both surface and subsurface soil was used at Area 1A. Appendix C.2 contains test kit and laboratory results for all samples collected at Area 1A.

Round 1 Excavation and Off-Site Disposal

On June 8, 2009, TolTest completed excavation to remove all the TSCA soil prior to completing the remaining Area 1A initial excavation (Figure 3-7). Two loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal.

TolTest completed the remaining Area 1A initial excavation (Round 1) on June 8, 17, 18, and 23, 2009. TSCA-regulated soil was excavated on June 8, 2009; the remaining soil excavated was non-TSCA. During the Round 1 excavation, TolTest excavated soil to the limits indicated on Figure 3-7. All soil excavated was direct-loaded for transport to the landfill. On June 17, 18, and 23, 2009, 18 total loads (10, five, and three, respectively, on each day) of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal.

A total of 46.49 tons of TSCA soil and 416.64 tons of non-TSCA soil were removed for disposal during the initial excavation. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the June 8, 17, 18, and 23, 2009, daily reports for more information about TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

The Navy directed Tetra Tech to collect five verification samples (13SOCF056C and 13SOCW076A through 13SOCW079A), the locations of which are shown on Figure 3-7, to confirm that all TSCA soil had been removed prior to completing the remaining Area 1A excavation. These samples were considered exploratory samples because additional excavation was necessary in this area to remove all contaminated soil present above the cleanup goal.

On June 17 and 23, 2009, Tetra Tech collected 22 verification composite samples, consisting of five floor and 17 wall samples, from the remaining Area 1A initial excavation (Figure 3-7). The following is a list of the Area 1A, Round 1 verification samples:

13SOCF057C	13SOCW083A	13SOCW095A
13SOCF058C	13SOCW084A	13SOCW096A
13SOCF059C	13SOCW085A	13SOCW097A
13SOCF061C	13SOCW086A	13SOCW098A
13SOCF062C	13SOCW087A	13SOCW099A
13SOCW080A	13SOCW088A	13SOCW100A
13SOCW081A	13SOCW089A	
13SOCW082A	13SOCW090A	

Samples were sent to the fixed-base laboratory without completing field tests. All five floor samples (13SOCF057C, 13SOCF058C, 13SOCF059C, 13SOCF061C, and 13SOCF062C) and 16 of the 17 wall samples were verified clean using the preliminary results from the fixed-base laboratory. One wall sample (13SOCW084A) contained concentrations of PCBs greater than the cleanup goal. The Navy directed TolTest to expand the excavation in this location. Appendix C.2 contains test kit and laboratory results for all samples collected at Area 1A.

Although the preliminary result for sample 13SOCF061C was below the cleanup goal of 25 ppm, the final validated result for the sample indicated that the PCB concentration (26 ppm) was greater than the cleanup goal. Due to the slight exceedance of the TSCA Low Occupancy standard and the fact that the location is a floor sample covered with 2 feet of clean fill, the Navy determined that further excavation at this location was not necessary.

Round 1 Backfilling

The excavation was left open until verification sample results were received. While open, the excavation filled with rain water. TolTest pumped 6,900 gallons of water from the excavation on June 22, 2009, and placed it in a holding tank. On July 31, 2009, this water was transported by Clean Harbors Environmental Services, Inc. to Spring Grove Resource Recovery, Inc. in Cincinnati, Ohio (Appendix J.1).

On June 25, 2009, 15 loads (333.63 tons) of off-site backfill were delivered to SWMU 13 by William Hanna Trucking, Inc. and used as backfill in the Area 1A excavation. Prior to backfilling, filter fabric was placed in the portion of the excavation that exceeded the cleanup goal (13SOCW84). Backfill weight tickets are provided in Appendix J.2 and backfill analytical results are provided in Appendix F.2. More

information about TolTest's Round 1, Area 1A backfilling and water disposal activities can be found in the June 25 and July 31, 2009, daily reports (Appendix I).

3.2.4.2 Area 1A (Building 166 Additional Excavation), Round 2

Round 2 Excavation and Off-Site Disposal

TolTest completed the Area 1A Round 2 excavation on July 31, 2009. During the Round 2 excavation, TolTest excavated soil to the following limits, as indicated on Figure 3-8:

- Two feet bgs northeast beyond the location of 13SOCW084.

All soil excavated was direct-loaded for transport to the landfill. On July 31, 2009, one load of non-TSCA soil was transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. The excavation was backfilled June 25, 2009, with material brought from off-site prior to obtaining verification sample results. This area was later re-excavated so Tetra Tech could collect the Round 2 verification samples.

A total of 6.63 tons of non-TSCA soil was removed for disposal during the Round 2 excavation. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. More information about TolTest's Round 2, Area 1A site activities can be found in the July 31, 2009, daily report (Appendix I).

Round 2 Verification Sample Collection and Results

On July 31, 2009, Tetra Tech collected six verification composite samples, consisting of one floor and five wall samples, from the Area 1A, Round 2 excavation (Figure 3-8). The following is a list of the Area 1A, Round 2 verification samples:

13SOCF063
13SOCW101
13SOCW102
13SOCW103
13SOCW104
13SOCW105

Round 2 verification composite samples were sent to the fixed-base laboratory without completing field tests. One floor sample (13SOCF063) and four of five wall samples were verified clean. The results for sample 13SOCW101 indicated concentrations of PCBs greater than the cleanup goal. On August 31, 2009, samples 13SOCW106A through 13SOCW110A were collected in the same locations as samples 13SOCW101 through 13SOCW105 to verify that the laboratory results for 13SOCW101 through 13SOCW105 were correct. Samples 13SOCW106A through 13SOCW110A are considered exploratory samples and the results are summarized in Appendix C.2.

Based on the laboratory analytical results for 13SOCW101 and 13SOCW106A (confirmation sample), the Navy directed Tetra Tech to collect exploratory step-out samples to determine the extent of contamination remaining near sample 13SOCW101. Appendix C.2 contains test kit and laboratory results for all samples collected at Area 1A.

It was not known at the time the exploratory step-out samples were collected that a 1 to 3 foot-wide area of soil remained between the initial excavation shown on Figure 3-7 and the Round 2 excavation shown on Figure 3-8. This was determined after the step-out samples were collected.

3.2.4.3 Area 1A (Building 166 Additional Excavation), Round 3

Exploratory Sample Collection and Results

On September 9, 2009, Tetra Tech collected three step-out hand auger samples to determine the extent of contamination (Figure 3-9). Based on the results of the step-out samples, Tetra Tech determined that there was a 1 to 3 foot-wide area that had not been excavated. The following is a list of Area 1A, exploratory step-out samples:

13SOCW11A	13SOCW112A	13SOCW113A

Samples were sent to the fixed-base laboratory without completing field tests. All three step-out samples were verified clean by the fixed-base laboratory. Based on the laboratory results, the Navy directed TolTest to expand the excavation as detailed below.

Round 3 Excavation and Off-Site Disposal

TolTest completed the Area 1A Round 3 excavation September 30, 2009. During the Round 3 excavation, TolTest excavated a 4-foot-wide volume of soil between the previous Round 1 and Round 2 Area 1A excavations (Figure 3-9) to address the exceedance associated with sample 13SOCW101.

All soil excavated was TSCA and was loaded into wrangler bags for disposal at a later date. On October 5, 2009, the wrangler bags containing the soil excavated September 30, 2009, were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. The excavation was graded using backfill material delivered from off-site on June 25, 2009.

A total of 2.12 tons of TSCA soil was removed for disposal during the Round 3 excavation. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. More information on TolTest's Round 3, Area 1A site activities can be found in the September 30, 2009, daily report (Appendix I).

Round 3 Verification Sample Collection and Results

No Round 3 verification samples were required at Area 1A because the exploratory samples (13SOCW111A through 13SOCW113A) were used to verify that final excavation limits were below the cleanup goal at Area 1A.

Figure 3-10 shows the Area 1 and 1A final excavation limits and verification sample results used to define the final excavation extent. TolTest did not provide a final excavation limit survey for the Area 1A excavation. The final excavation limits and verification sample locations were determined using a combination of Tetra Tech's field measurements, sketches, and notes. Appendix C.2 contains test kit and laboratory results for all samples collected at Area 1A. Table 3-3 contains laboratory sample results used to verify that final excavation limits shown on Figure 3-10 were below the cleanup goal at Area 1A.

3.2.5 Area 1B (Building 166 Trenches)

The following is a summary of the samples collected and the amount of material disposed of from Area 1B:

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)	Non-TSCA Material Disposed (tons)	Incoming Backfill Material (tons)
1B	~~Exploratory~~1	3	3	0	0	~~0~~47.60	0
Total	1	3	3	0	0	47.60~~0~~	0

~~Note:~~ ~~Quantities of material disposed from Area 1B will be provided in a separate TolTest closure report.~~

3.2.5.1 Area 1B (Building 166 Trenches), Round 1

Round 1 samples

~~Exploratory Samples~~

On January 22, 2009, Tetra Tech collected three exploratory sediment samples (13SD079, 13SD080, and 13SD081) from trenches inside Building 166 to determine the limit of trench clean-out prior to building demolition. The locations of these samples are shown on Figure 3-11.

These three sediment samples were field-tested using the Rapid Assay PCB test kit. Because these three sediment samples were only collected for informational purposes, they were not sent to a fixed-base laboratory for verification. Two of three sediment samples collected (13SD079 and 13SD080) contained PCB concentrations greater than the cleanup goal. The test kit results for all Area 1B samples are summarized in Table 3-4 and Appendix C.3. Based on the test kit results for samples 13SD079, 13SD080, and 13SD081, the Navy directed TolTest to clean out the Building 166 trenches up to location 13SD081 (Figure 3-11) and dispose of the material in an off-site landfill

~~Based on the test kit results for 13SD079, 13SD080, and 13SD081, the Navy directed TolTest to clean-out the Building 166 trenches up to location 13SD081 (Figure 3-11) and dispose of the material in an off-site landfill; however, this activity will be summarized in a separate TolTest closure report.~~ Building 166 and its trenches were eventually demolished by TolTest. ~~SWMU 13 demolition work will be summarized in a separate TolTest closure report.~~

Round 1 Excavation and Off-Site Disposal

TolTest, Inc. completed the Area 1B Round 1 excavation January 22, 2009. During the Round 1 excavation, TolTest excavated all sediment from the Building 166 trenches (Figure 2-11). Two loads of sediment were excavated on January 22, 2009, and direct loaded for transport to the landfill. On January 22, 2009, the two loads of non-TSCA sediment were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 47.60 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

3.2.6 Area 2 (Building 171)

The following is a summary of the samples collected and the amount of material disposed of from Area 2. As discussed in Section 3.1, the Building 171 sediment pile (Figures 1-6 and 1-7) was loaded and disposed of with material from the Building 171 excavation. The Round 1 totals below include the disposal of this material.

Area	Excavation Round	Samples Collected[1]	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[2]	Non-TSCA Material Disposed (tons)[2]	Non-TSCA Water Disposed (gallons)	Incoming Backfill Material (tons)
2	1	40	31	37	545.71	836.83	5200[3]	103.34
2	2	11	6	9	298.47	182.78	0	NA
total	2	51	37	46	844.18	1,019.61	5200[1]	103.34

Notes
1 Number of samples collected includes aliquots that were tested separately.
2 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
3 Gallons were estimated based on the weight listed on the manifest.
NA Not Applicable (material obtained from an on-site source).

3.2.6.1 Area 2 (Building 171), Round 1

Round 1 Excavation and Off-Site Disposal

TolTest completed the Area 2 initial excavation (Round 1) on November 6, 7, 10, 12, and 17, and December 1 through 4, 22, 23, 29, and 30, 2008. TolTest was on-site at Area 2 for a portion of the Round 1 excavation December 18, 2009; however, they only excavated an area that Tetra Tech needed to re-sample (13SOCF021A) and did not dispose of any soil during this time. There was no daily report provided for this date. This area is discussed in the Round 1 Supplemental Sample Collection and Results section below.

During the Round 1 excavation, TolTest excavated soil to the limits indicated on Figure 3-12 and removed the sediment pile located in the Building 171 tramway (Figures 1-6 and 1-7). Soil excavated November 10, December 22, 23, and 29, 2008, was hauled to the SWMU 13 stockpile located near Building 2502 for staging and off-site disposal at a later time. Soil excavated on November 6, 7, 10, 12, 17, and December 1 through 4, 22, and 30, 2008, was direct-loaded for transport to the landfill.

On November 6, 7,10, 12, and December 22, 2008, a total of 23 loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A

total of 844.18 tons of TSCA soil was disposed of during Round 1. On November 17, December 1 through 4, 23, and 30, 2008, a total of 36 loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 1019.61 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

On November 12, and 20, and December 4, 22, 23, and 30, 2008, Tetra Tech collected a total of 35 verification composite soil samples from the Area 2 initial excavation, consisting of 16 floor samples and 19 wall samples (Figure 3-12). The following is a list of the Area 2, Round 1 samples:

13SOCF004A	13SOCW016A
13SOCF005A	13SOCW017A
13SOCF006A	13SOCW018A
13SOCF007A	13SOCW019A
13SOCF008A	13SOCW020A
13SOCF012A	13SOCW021A
13SOCF018A	13SOCW024A
13SOCF019A	13SOCW025A
13SOCF020A	13SOCW026A
13SOCF021A	13SOCW027A
13SOCF022A	13SOCW033A
13SOCF023A	13SOCW034A
13SOCF024A	13SOCW035A
13SOCF028A	13SOCW036A
13SOCF029A	13SOCW037A
13SOCF030A	13SOCW038A
13SOCW014A	13SOCW052A
13SOCW015A	

Soil samples collected December 22, 23, and 30, 2008 (13SOCF028A, 13SOCF029A, 13SOCF030A, and 13SOCW052A), were not field-tested using the Rapid Assay PCB Test Kit. The remaining 13 composite floor samples and 18 composite wall samples were field-tested to determine whether to send the sample to a fixed-base laboratory or whether further excavation was required. The following 11 composite floor samples and nine composite wall samples were verified clean by the fixed-base laboratory:

13SOCF004A	13SOCF030A
13SOCF006A	13SOCW017A
13SOCF007A	13SOCW018A
13SOCF008A	13SOCW019A
13SOCF012A	13SOCW025A
13SOCF018A	13SOCW026A
13SOCF019A	13SOCW033A
13SOCF020A	13SOCW034A
13SOCF022A	13SOCW036A
13SOCF024A	13SOCW037A

The results of the remaining field test and fixed-base laboratory samples (13SOCF005A, 13SOCF021A, 13SOCF023A, 13SOCF028A, 13SOCF029A, 13SOCW014A, 13SOCW015A, 13SOCW016A, 13SOCW020A, 13SOCW021A, 13SOCW024A, 13SOCW027A, 13SOCW035A, 13SOCW038A, and 13SOCW052A) indicated PCB concentrations greater than cleanup goals. Both the test kit and preliminary lab results for 13SOCF021A indicated that the PCB concentration was below the 25 ppm cleanup goal for floor samples; however, the final validated laboratory result (180 ppm) was above the cleanup goal. The excavation was backfilled prior to obtaining these final results.

Round 1 Supplemental Sample Collection and Results

After obtaining the final validated verification sample results for sample 13SOCF021A (180 mg/kg), it was determined that further sampling was necessary at this location. Using a global positioning system, Tetra Tech relocated the positions of the four aliquots comprising 13SOCF021A. Tetra Tech hand augered through the top 2 ft of clean fill and collected four more soil grab samples from these relocated positions to represent the same area as the original composite sample 13SOCF021A. The four new grab samples were combined into new composite sample 13SOCF064. This composite sample, 13SOCF064, was sent to the fixed-base laboratory on December 18, 2009. The analysis of this composite sample indicated PCB concentrations greater than the cleanup goal.~~After obtaining the final validated verification sample results for sample 13SOCF021A (180 ppm), it was determined that further sampling was necessary at this location. Tetra Tech located the four aliquots of 13SOCF021A using GPS coordinates to recreate the original shape of this sample. The Navy directed TolTest to excavate and stockpile the top 2 feet of clean fill to expose the area where the four aliquots of sample 13SOCF021A were collected. To determine the exact location of the remaining contamination, Tetra Tech collected the four aliquots of sample 13SOCF064 from the same locations as the four aliquots of 13SOCF021A. The composite, 13SOCF064,~~

~~was sent to the fixed-base laboratory on December 18, 2009. The results of this composite sample indicated PCB concentrations greater than the cleanup goal.~~

On January 28, 2010, the four aliquots of composite 13SOCF064 (13SOF064A, 13SOF064B, 13SOF064C, and 13SOF064D) were sent to the fixed-base laboratory to delineate the remaining contamination. Based on the laboratory results, Tetra Tech determined that PCB contamination above the cleanup goal was present only in the area represented by aliquot 13SOF064D (Figure 3-12).

Based on the results of the Round 1 and Round 1 Supplemental Samples, the Navy directed Tetra Tech to collect the following exploratory data to delineate the remaining contamination prior to recommending further excavation:

- Collect samples 1 to 2 feet beyond the edge of the excavation near locations 13SOCW024A, 13SOCW027A, 13SOCW035A, and 13SOCW038A; and

- Complete field test kits on aliquots B and C from sample 13SOCF029A to verify that these two aliquots (adjacent to the road) are clean.

Exploratory Sample Collection and Results

On December 18, 2008, Tetra Tech collected four exploratory step-out hand auger samples to delineate the remaining contamination prior to the Round 2 excavation (Figure 3-13). The following is a list of the Area 2 exploratory samples:

13SOCW046A	13SOCW048A
13SOCW047A	13SOCW049A

The four samples were sent to the fixed-base laboratory without completing field tests. Two samples (13SOCW046A and 13SOCW048A) were verified clean by the fixed-base laboratory. The results of the remaining two fixed-base laboratory samples (13SOCW047A and 13SOCW049A) contained PCB concentrations greater than the cleanup goal.

Based on the test kit and laboratory results for the Round 1, Round 1 Supplemental, and exploratory samples, the Navy directed TolTest to expand the excavation as detailed in Section 3.2.6.2. Appendix C.4 contains test kit and laboratory results for all samples collected at Area 2.

Round 1 Backfilling

The excavation was left open until verification sample results were received. On November 21 and November 25, 2008, TolTest pumped 5,200 gallons (approximated based on the weight listed on the manifest) of rain water that had accumulated in the Area 2 excavation while awaiting verification sample results. This water was stored in a holding tank until January 20, 2009, when it was transported by Clean Harbors Environmental Services, Inc. to Spring Grove Resource Recovery, Inc. in Cincinnati, Ohio (Appendix J.1).

On December 29 and 30, 2008, and January 2, 2009, TolTest used on-site material to backfill the portions of the Round 1 excavations verified clean by the fixed-base laboratory. See the daily reports for these dates for more information (Appendix I).

TolTest's December 5, 2008, daily report indicates that a total of 103.34 tons of backfill were brought to SWMU 13 December 3, 2008, most likely from an on-site source. The December 3, 2008 daily report does not indicate where this fill was placed, but Tetra Tech determined it was most likely placed in the Area 2, Round 1 excavation after verification sample results came back below the cleanup goal. No backfill weight tickets were provided for this material and therefore it appears this material was from an on-site source.

3.2.6.2 Area 2 (Building 171), Round 2

Round 2 Excavation and Off-Site Disposal

TolTest completed the Area 2, Round 2 excavation on December 3, 22, 23, 29, and 30, 2008, and on January 5 through 7, 2009. Based on the results of the Round 1 and Round 1 Supplemental verification samples, the excavation was expanded as follows:

- From 2 to 4 feet bgs at sample 13SOCF023A;
- Two feet bgs, between samples 13SOCW014A, 13SOCW015A, and 13SOCW016A and the edge of the road;
- From 2 to 3 feet bgs at sample 13SOCF005A;

- From 2 to 4 feet bgs at sample 13SOCF028A and aliquots A and D from sample 13SOCF029A (the two adjacent to sample 13SOCF028A);

- Two feet bgs 2 feet west of sample 13SOCW052A; and

- Two feet bgs 1 foot northwest of samples 13SOCW020A and 13SOCW021A; however, during this excavation, TolTest discovered a culvert and this area became part of Area 3 (Building 171 East Drainage Channel). All further excavation at these locations is discussed in Section 3.1.7.

Based on the results of the exploratory step-out samples, the excavation was expanded as follows:

- Two feet bgs from the initial excavation limits to 1 foot southeast of the initial excavation limits to the location of step-out sample 13SOCW046A;

- Two feet bgs from the initial excavation limits to 2 feet north of the initial excavation limits to the location of step-out sample 13SOCW048;

- Two feet bgs to the edge of the asphalt road beyond sample 13SOCW049A; and,

- Two feet bgs to the edge of the concrete pad and metal walkway beyond 13SOCW047A.

Further excavation completed based on the Round 1, Round 1 Supplemental, and exploratory step-out samples, as described above, is shown on Figure 3-13. Further excavation completed at 13SOF064D is shown on the Area 2A figures (3-15 to 3-21).

Soil excavated December 22, 23, and 29, 2008 and January 5 and 6, 2009, was hauled to the SWMU 13 stockpile located near Building 2502 for staging and off-site disposal at a later time. Soil excavated December 3, 22, 23, and 30, 2008, and January 7, 2009, was direct-loaded for transport to the landfill.

On December 3 and 22, 2008, and January 6 and 7, 2009, 13 loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 298.47 tons of TSCA soil were disposed of during Round 2. On December 3, 29, and 30, 2008, eight loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 182.78 tons of non-TSCA soil was disposed of during Round 2. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table

summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 2 Verification Sample Collection and Results

On December 4, and 22, 2008, and January 7, 2009, Tetra Tech collected verification samples, consisting of four composite floor samples, and one composite wall sample from the Area 2, Round 2 excavation (Figure 3-13). Because the exploratory step-out samples 13SOCW046A and 13SOCW048A were verified clean (discussed in 3.2.6.1, Exploratory Sample Collection and Results), they were used as final Round 2 verification samples and are included in the list below. The following is a list of the Area 2, Round 2 verification samples:

13SOCF025B	13SOCW046A
13SOCF027B	13SOCW048A
13SO2CF029A	13SOCW054A
13SOCF031B	

The composite sample collected on December 22, 2008 (13SOCF027B), was not field-tested using the Rapid Assay PCB Test Kit. Four samples (13SOCF025B, 13SO2CF029A [aliquots B and C from Round 1 sample 13SOCF029A], 13SOCF031B, and 13SOCW054A) were field-tested to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. All five composite samples were sent to the fixed-base laboratory to verify the results of the field tests and to obtain results for samples not field tested. The four floor samples (13SOCF025B, 13SOCF027B, 13SO2CF029A, and 13SOCF031B) and one wall sample (13SOCW054A) were verified clean by the fixed-base laboratory.

See Figure 3-13 for the expanded excavation limits based on Round 1 verification samples, exploratory step-out samples, and Round 2 verification samples. No Round 3 verification samples were collected after further excavation beyond exploratory step-out samples 13SOCW047A and 13SOCW049A because the excavation limits were at the edge of the asphalt road or the concrete pad (Figure 3-13).

Figure 3-14 shows the Area 2 final excavation limits, the IMWP proposed excavation limits, and verification sample results used to define the final excavation extent. The final excavation survey provided by TolTest was partially a grading limit survey and partially a final excavation limit survey. Therefore, the final excavation limits and locations of all verification samples were determined using a combination of GPS points collected by Tetra Tech, Tetra Tech's field sketches and notes, and survey

data provided by TolTest. Appendix C.4 contains test kit and laboratory results for all samples collected at Area 2. Table 3-5 contains laboratory sample results used to verify that final excavation limits were below the cleanup goals at Area 2.

Following completion of the Area 2 excavation, PCB contamination remained at location 13SOF064D. Due to the complexity of the excavation, further excavation at this location is summarized on the Area 2A, Figures 3-15 to 3-21. All other contamination discovered at Area 2 was removed; thus, no Round 3 samples were collected.

Round 2 Backfilling

On January 2, 20, and 21, 2009, TolTest used on-site material to backfill the Round 2 excavation. See the daily reports for these dates for more information (Appendix I). It was later determined that a small mound of soil between the road and Area 2 samples 13SOCW036 and 13SOCW037 contained PCB concentrations greater than the cleanup goal. Some of the contamination found in this area during the Area 2A sampling was attributed to a small amount of contaminated material being placed during site grading and backfilling. See Section 3.2.7 for more information.

3.2.7 Area 2A (Building 171 Additional Excavation)

The following is a summary of the samples collected and the amount of material disposed of from Area 2A.

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Incoming Backfill Material (tons)
2A	1	4	2	2	20.660	89.76	NA
2A	2	5	0	5	91.25	0	NA
2A	3	32	32	30	236.23	208.46	NA
2A	4	8	5	8	17.85	192.90	NA
2A	5	3	2	3	0	41.20	NA
2A	Exploratory	117	16	101	0	0	None
Total	6	169	57	149	365.99345.33	532.32	NA

Notes
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA = Not Applicable (material obtained from an on-site source, or source unknown).

3.2.7.1 Area 2A (Building 171 Additional Excavation), Round 1

Round 1 Excavation and Off-Site Disposal

~~The~~ Area 2A initial excavation limits were ~~based~~ established around ~~on~~ the Area 2 grab sample aliquot (13SOF064D) that exceeded the cleanup goal. As discussed in Section 3.2.6.1, Tetra Tech hand augured through the fill to a depth of 2 ft bgs to collect four new grab samples at the same locations as the four grab samples comprising composite sample 13SOCF021A. Sample 13SOCF021A ~~was~~had been collected previously and exhibited elevated PCB concentrations. A new composite sample was formed from these four new grab samples and was labeled 13SOCF064A. ~~As discussed in Section 3.2.6.1, TolTest removed the top 2 feet of clean fill from location 13SOCF021A so an additional sample could be collected (13SOCF064A) to delineate the remaining contamination. The top 2 feet above sample aliquot 13SOF064D was stockpiled as clean fill. After sample 13SOCF064A was collected from 2 feet bgs, the excavation was left open.~~

On March 15 through 19,~~15 through 19~~17, 2010, TolTest completed the Area 2A initial excavation to 3 feet bgs, as shown on Figure 3-15. The Area 2A initial excavation consisted of only three walls because what would have been a fourth wall bordered the Area 2 ~~open~~ excavation that had been verified to be clean (Figure 3-15). The top two feet of non-TSCA ~~S~~soil was excavated on March 15 and 16~~15 and 16~~17, 2010, and ~~was~~ direct-loaded for transport to the landfill. TSCA soil from two to three feet bgs was excavated on March 17, 2010, and direct-loaded for transport to the landfill. The daily reports for March 18 and 19, 2010, indicate that Toltest completed work at Building 171 on these dates. Because Toltest did not transport any soil to a landfill during this time, it is ~~assumed~~concluded that this work was not excavation related (ie. site clean up and grading). ~~The daily report for March 18 and 19, 2010 does not indicate to where soil excavated on these days was transported, but it was most likely to the stockpile near Building 2502.~~

On March 15 and 16~~15 and 16~~17, 2010, four ~~three one~~ loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 89.76 tons of non-TSCA soil was disposed of during Round 1. On March 17, 2010, one load ~~s and one load, respectively,~~ of ~~non-~~TSCA soil ~~were~~ was transported by U.S. Bulk Transport, Inc. to ~~Sycamore Ridge~~Heritage Environmental Services, LLC in Roachdale ~~Landfill in Pimento~~, Indiana for disposal. A total of ~~89.76~~ ~~41,320 pounds (~~20.66~~21.2~~ tons~~)~~ s~~tons~~ of ~~non-~~TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

On March 18 and 31, 2010, Tetra Tech collected four verification composite samples, consisting of one floor sample and three wall samples, from the Area 2A initial excavation (Figure 3-15). No samples were collected from 0 to 2 feet bgs because the top 2 feet of soil in this area consisted of clean backfill placed during the Area 2 excavation. The top two feet of soil in the area along the road, where contaminated backfill had been placed, was later sampled. Because backfill in other areas of the Area 2 excavation was not from the same on-site source as the backfill along the road, it was determined to be clean. The following are the Area 2A, Round 1 verification samples:

13SOCF073	13SOCW119	13SOCW120	13SOCW121

Composite samples 13SOCF073 and 13SOCW119 were not field-tested using the Rapid Assay PCB Test Kit. Composite samples 13SOCW120 and 13SOCW121 were field-tested to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. Samples 13SOCF073 and 13SOCW119 were sent to the fixed-base laboratory. The results of the field test kit and fixed-base laboratory analysis indicated that all four samples contained PCB concentrations greater than cleanup goals.

Based on the test kit and laboratory results from 13SOCF073A and 13SOCW119 through 13SOCW121, the Navy directed Tetra Tech to collect exploratory step-out hand auger samples to determine the extent of contamination and to guide the excavation.

On March 31, 2010, Tetra Tech collected 16 exploratory hand auger samples (13SOCF075 through 13SOCF090) to delineate contamination surrounding samples 13SOCW119, 13SOCW120, and 13SOCW121. Samples were collected just below the top 2 feet of backfill. Field test kits were completed on the 16 samples and the results were used to determine the Round 2 excavation limits. Test kit results for these 16 samples are summarized in Appendix C.5.

3.2.7.2 Area 2A (Building 171 Additional Excavation), Round 2

Round 2 Excavation and Off-Site Disposal

On April 16, 2010, TolTest completed the Area 2A, Round 2 excavation based on the results of the Round 1 and exploratory hand auger samples. The excavation was expanded to the following limits, as shown on Figure 3-16:

- Approximately 10 feet northeast from sample location 13SOCW119;
- Approximately 15 feet southeast from sample location 13SOCW121; and,
- From 3 to 5 feet bgs over the entire excavation floor (including newly exposed floor).

No further excavation at sample location 13SOCW120 was completed due to the presence of a water line. The soil excavated was direct-loaded for transport to the landfill.

On April 16, 2010, four loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 91.25 tons of TSCA soil was disposed of during Round 2. Documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily report for April 16, 2010, for more information on TolTest's site activities (Appendix I).

Round 2 Verification Sample Collection and Results

On April 21, 2010, Tetra Tech collected five verification composite samples, consisting of one floor and four wall samples, from the Area 2A, Round 2 excavation (Figure 3-16). The Navy directed Tetra Tech to collect a 0 to 2-feet bgs sample on the eastern wall (closest to the water line) in addition to the 2 to 5-feet bgs sample. Only 2 to 5-feet bgs samples were collected from the other two exposed walls of the excavation because the top 2 feet of soil in these areas consisted of clean backfill. The following is a list of the Area 2A, Round 2 verification samples:

13SOCF091	13SOCW124
13SOCW122	13SOCW125
13SOCW123	

All five composite samples were sent to the fixed-base laboratory without completing Rapid Assay PCB Test Kits. Sample 13SOCW125 (collected at 2 to 5-feet bgs) was verified clean by the fixed-base

laboratory. Results of the remaining four fixed-base laboratory samples (13SOCF091 and 13SOCW122 through 124) indicated PCB concentrations greater than cleanup goals.

Based on the fixed-base laboratory results, the Navy directed Tetra Tech to develop a sampling plan to delineate the remaining contamination at Area 2A.

May and June Exploratory Sampling Events

On May 7, and June 3 and 22, 2010, Tetra Tech collected a total of 101 samples from 59 soil boring locations, 49 of which were advanced using DPT and 10 of which were advanced using a hand auger (Figure 3-17). Appendix C.5 summarizes the samples collected from the 59 locations shown on Figure 3-17.

All 101 samples were sent to the fixed-base laboratory without completing field tests. Eighty-five were verified clean by the fixed-base laboratory (Appendix C.5). Results of the remaining 16 fixed-base laboratory sample analysis showed PCB concentrations greater than the cleanup goals (Figure 3-17 and Appendix C.5).

Much of the area containing samples with PCB concentrations greater than the cleanup goal had been excavated to 2 feet bgs during the Area 2 excavation. The location of the contaminated material used as backfill was never determined exactly; however, it is likely that the material came from a small mound adjacent to the Area 2 excavation, just outside of the original excavation boundaries developed in the SWMU 13 IMWP. Prior to site grading activities, there was a small mound-shaped area outside of the Area 2 excavation, between the road and sample locations 13SOCW036 and 13SOCW037 shown on Figure 3-14. After confirmation samples indicated that all PCB-contaminated soil had been removed from Area 2 excavations, site grading was completed and soil in the mound was graded into the excavation to create a level grade at the site. During the Area 2A excavation and sampling, it was discovered that contaminated material remained in subsurface areas where the mound was previously located. It was then assumed that the mound, and the areas directly surrounding it, contained PCB-contaminated soil which had been graded into the Area 2 excavation.~~It was determined that a small mound of soil just between the road and Area 2 samples 13SOCW036 and 13SOCW037 contained PCB concentrations greater than the cleanup goal.~~ The contamination found in the surface (0 to 2 feet bgs) along the road (between 13SB147 and 13SB197) during this exploratory sampling event was attributed to the use of this contaminated material during site grading and backfilling. PCB-contaminated soil deeper than 2 feet bgs along the road was not discovered during verification sampling completed at Area 2 since samples were not collected in this area. PCB-contaminated soil around Area 2 sample 13SOF064D was not initially

excavated during the Area 2 excavation due to a change in sample concentration from the preliminary laboratory result to the final laboratory result, which was not available until after the excavation was backfilled (discussed in Section 3.2.6.1 (Area 2, Round 1).

Based on the fixed-base laboratory results, the Navy developed an excavation plan to remove the remaining contamination at Area 2A. Figure 3-18 shows the final excavation limits determined based on the exploratory sampling events.

3.2.7.3 Area 2A (Building 171 Additional Excavation), Round 3

Round 3 Excavation and Off-Site Disposal

On July 8 and 9, 2010, TolTest completed the Round 3 excavation to the limits shown on Figure 3-18. Initial limits of TSCA soil were delineated based on the results of the May and June exploratory sampling events. Soil excavated on ~~these~~ July 8 and 9, 2010 ~~dates~~ was direct-loaded for transport to the landfill. On July 8, 2010, 10 loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 236.23 tons of TSCA soil was disposed of during Round 3. On July 9, 2010, 10 loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 208.46 tons of non-TSCA soil was disposed of during Round 3. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. TolTest did not provide daily reports for dates after March 16, 2010; thus, excavation activities completed at Area 2A after Round 2 were summarized based on Tetra Tech's field notes (Appendix E) and manifests provided by TolTest (Appendix J.1).

Round 3 Verification Sample Collection and Results

On July 8 and 9, 2010, Tetra Tech collected 32 verification composite samples, consisting of two floor samples and 30 wall samples, from the Area 2A, Round 3 excavation (Figure 3-18). In areas where TSCA soil had been excavated, confirmation sample results were used to confirm the removal of TSCA soil. As indicated on Figure 3-18, portions of Area 2A were excavated to bedrock, so no verification samples were collected from the floors of these areas. Also, samples were not collected from the top 2 feet in some locations due to the presence of clean fill. The following is a list of the Area 2A, Round 3 verification samples:

13SOCF092	13SOCW140

13SOCF093	13SOCW141
13SOCW126	13SOCW142
13SOCW127	13SOCW143
13SOCW128	13SOCW144
13SOCW129	13SOCW145
13SOCW130	13SOCW146
13SOCW131	13SOCW147
13SOCW132	13SOCW148
13SOCW133	13SOCW149
13SOCW134	13SOCW150
13SOCW135	13SOCW151
13SOCW136	13SOCW152
13SOCW137	13SOCW153
13SOCW138	13SOCW157
13SOCW139	13SOCW158

As indicated in the IMWP, each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. Based on the test kit results, the two floor samples and 28 of the 30 wall samples were sent to the laboratory to confirm the results of the field tests. The two floor samples (13SOCF092 and 13SOCF093) and 27 of the 30 wall samples were verified clean by the fixed-base laboratory.

The test kit and fixed-base laboratory analytical results of the remaining three wall samples (13SOCW130, 13SOCW136, and 13SOCW153) indicated PCB concentrations greater than cleanup goals. Based on these results, the Navy directed TolTest to expand the excavation beyond the location of these wall samples. Appendix C.5 contains test kit and laboratory results for all samples collected at Area 2A.

3.2.7.4 Area 2A (Building 171 Additional Excavation), Round 4

Round 4 Excavation and Off-Site Disposal

From July 9 through 14, 2010, TolTest completed the Round 4 excavation based on the results of the Round 3 verification samples discussed above. The excavation was expanded in the following directions, as shown on Figure 3-19:

- From 2 to 4 feet bgs 20 feet southwest of sample location 13SOCW136;

- From 0 to 2 feet bgs approximately 8.5 feet northwest beyond sample location 13SOCW153 (just beyond the water line); and,
- From 0 to 7 feet bgs approximately 10 feet northwest beyond sample location 13SOCW130.

Soil excavated on these dates was direct-loaded for transport to the landfill. On July 9, 2010, one load of TSCA soil was transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 17.85 tons of TSCA soil was disposed of during Round 4. On July 9 and 14, 2010, nine and one loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 192.9 tons of non-TSCA soil was disposed of during Round 4. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. TolTest did not provide daily reports for dates after March 16, 2010; thus, excavation activities completed at Area 2A after Round 2 were summarized based on Tetra Tech's field notes (Appendix E) and manifests provided by TolTest (Appendix J.1).

Round 4 Verification Sample Collection and Results

On July 9 and 10, 2010, Tetra Tech collected eight verification wall samples from the expanded portion of the Area 2A excavation (Figure 3-19). In areas where TSCA soil had been excavated, confirmation sample results were used to confirm the removal of TSCA soil. Samples were not collected from the top 2 feet in some locations due to the presence of clean fill. The following is a list of the Area 2A, Round 4 verification samples:

13SOCW154	13SOCW160
13SOCW155	13SOCW161
13SOCW156	13SOCW162
13SOCW159	13SOCW163

Five of the eight samples were field-tested using the Rapid Assay PCB Test Kit to determine whether samples should be sent to a fixed-base laboratory or further excavation was required. Based on the test kit results, all eight wall samples were sent to the lab to confirm the results of the field tests. Six of the eight wall samples (13SOCW154, 13SOCW156, 13SOCW159 through 161, and 13SOCW163) were verified clean by the fixed-base laboratory. The fixed-base laboratory results of the remaining two wall samples (13SOCW155 and 13SOCW162) showed PCB concentrations greater than cleanup goals. Based on these results, the Navy directed TolTest to expand the excavation beyond the locations of

these wall samples. Appendix C.5 contains test kit and laboratory results for all samples collected at Area 2A.

3.2.7.5 Area 2A (Building 171 Additional Excavation), Round 5

Round 5 Excavation and Off-Site Disposal

On July 14, 2010, TolTest completed the Round 5 excavation to the limits shown on Figure 3-20. The excavation was expanded in the following directions:

- 0 to 7 ft bgs 4 feet southwest beyond sample location 13SOCW155; and,
- 0 to 2 ft bgs approximately 3 feet northwest beyond sample location 13SOCW162.

Soil excavated on these dates was direct-loaded for transport to the landfill. On July 14, 2010, two loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 41.2 tons of non-TSCA soil was disposed of during Round 5. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. TolTest did not provide daily reports for dates after March 16, 2010; thus, excavation activities completed at Area 2A after Round 2 were summarized based on Tetra Tech's field notes (Appendix E) and manifests provided by TolTest (Appendix J.1).

Round 5 Verification Sample Collection and Results

On July 14 and 19, 2010, Tetra Tech collected three verification composite samples, consisting of one floor and two wall samples, from the Area 2A, Round 5 excavation. Samples were not collected from the top 2 feet in some locations due to the presence of clean fill. The following are the Area 2A, Round 5 verification samples: 13SOCF094, 13SOCW164, and 13SOCW165.

Samples 13SOCF094 and 13SOCW164 were field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or further excavation was required. Based on the test kit results, these two samples were sent to the fixed-base laboratory. Sample 13SOCW165 was sent to a fixed-base laboratory without completing a field test. All three samples were verified clean by the fixed-base laboratory. Based on the fixed-base laboratory results, no further excavation was recommended at Area 2A.

Figure 3-21 shows the Area 2A final excavation limits, the Area 2 excavation limits, and verification sample results used to define the final excavation extent at Area 2A. TolTest did not provide a final excavation limit survey for the Area 2A excavation. The final excavation limits and verification sample locations were determined using a combination of Tetra Tech's field measurements, sketches, and notes. Appendix C.5 contains test kit and laboratory results for all samples collected at Area 2A. Table 3-6 contains laboratory sample results used to verify that final excavation limits were below the cleanup goals at Area 2A.

3.2.7.6 Area 2A Backfilling

TolTest did not provide daily reports for the majority of the Area 2A excavation; thus, specific dates and amounts of backfill in this area are unknown. Tetra Tech field personnel noted that portions of the Area 2A excavation were backfilled multiple times throughout the field notebook; however, Tetra Tech was not present when backfill material was delivered to the site. Off-site backfill material was used but no documentation was provided by TolTest.

3.2.8 Area 2B (Building 171 Sump and Trenches)

The following is a summary of the samples collected and the amount of material disposed of from Area 2B:

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Incoming Backfill Material (tons)
2B	1	9	0	9	0	203.08	NA
2B	Exploratory	2	0	2	0	0	None
Total	2	11	0	11	0	203.08	NA

Note
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not Applicable (material obtained from an on-site source).

3.2.8.1 Area 2B (Building 171 Trenches), Round 1

Round 1 Excavation and Off-Site Disposal

From November 5 through 7, 10, and 11, 2008, TolTest cleaned and removed debris from Building 171 interior trenches and transported this material to the stockpile near Building 2502. On November 12 and 13, 2008, TolTest pressure-washed the interior Building 171 concrete trenches. On November 14, 2008,

TolTest removed material from the trenches outside Building 171, where material from the interior trenches collected during power-washing, and transported it to the stockpile near Building 2502. On November 18, 2008, one load of non-TSCA stockpiled material from the Building 171 trenches was transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. TolTest demolished the Building 171 sump on January 15 and 16, 2009. Eight loads of non-TSCA sediment and concrete debris were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. ~~Demolition of Building 171 and interior trenches was completed under a larger SWMU 13 project, and will be summarized by TolTest in a separate report~~.

A total of 203.08 tons of non-TSCA sediment and debris was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. Daily reports for the above referenced dates are located in Appendix I.

Round 1 Verification and Exploratory Sample Collection and Results

On November 20, 2008, Tetra Tech was directed by the Navy to collect two exploratory sediment samples from the sump west of Building 171. On December 3, 2008, Tetra Tech collected nine verification concrete wipe samples from the Building 171 trenches (Figure 3-22). The following is a list of the Area 2B, Round 1 verification and exploratory samples:

13SD077	13WP005
13SD078	13WP006
13WP001	13WP007
13WP002	13WP008
13WP003	13WP009
13WP004	

The concrete wipe and sediment samples were sent to the fixed-base laboratory without completing field test kits. The nine concrete wipe samples were verified clean by the fixed-base laboratory. Fixed-base laboratory results for the two sediment samples from the sump contained PCB concentrations greater than the cleanup goal. Based on these laboratory results, the Navy directed TolTest to clean out the sump and dispose of the sediment and demolish the concrete sump and trenches during the demolition of the building, as summarized above. ~~SWMU 13 Building 171, sump, and interior trench demolition work and associated samples will be summarized in a separate TolTest closure report.~~ Appendix C.6 and Table 3-7 contain laboratory results for all samples collected at Area 2B.

3.2.9 Area 3 (Building 171 East Drainage Channel)

The following is a summary of the samples collected and the amount of material disposed of from Area 3. Because a portion of Area 3 was excavated originally as part of Area 2, much of the Area 3, Round 1 material has been included with the Area 2, Round 1 material. As such, the actual amount of Area 3, Round 1 material disposed is higher, and the Area 3, Round 2 material disposed is lower than the amount shown in the table below.

Area	Excavation Round	Samples Collected[1]	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[2]	Non-TSCA Material Disposed (tons)[2]	Incoming Backfill Material (tons)
3	1	19	11	13	73.40	45.61	NA
3	2	19	16	7	0	135.83	NA
3	3	12	11	4	0	91.79	NA
3	4	8	1	7	0	89.31	NA
3	5	1	0	1	0	22.42	NA
Total	5	59	39	32	73.40	384.96	NA

Notes

1 Number of samples collected includes aliquots tested separately.
2 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not Applicable (material obtained from an on-site source).

3.2.9.1 Area 3 (Building 171 East Drainage Channel), Round 1

Round 1 Excavation and Off-Site Disposal

TolTest completed the Area 3 Round 1 excavation on November 10, 18, and December 30, 2008 (Figure 3-23). Soil excavated on these dates was direct-loaded for transport to the landfill. On January 26, 2009, TolTest pressure-washed the concrete culvert that receives runoff from Area 3. As stated above, a portion of Area 3 was excavated originally as Area 2 but later became Area 3 when a culvert was discovered. The material excavated from this area was included as part of the Area 2, Round 1 summary.

On November 10, 2008, three loads of TSCA soil were transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 73.4 tons of TSCA soil was disposed of during Round 1. On November 18, 2008, two loads of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 45.61 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste

disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

On November 20, 2008, and January 7 and February 5, 2009, Tetra Tech collected a total of 16 verification soil samples from the Area 3 Initial (Round 1) Excavation (Figure 3-23). Ten were verification composite soil sample locations, consisting of six floor and four wall samples, and six were aliquots from two different composite samples (13SOCF010A and 13SOCW022A). These aliquots were tested separately to delineate contamination and were then used as verification samples. The sample collected November 12, 2008 (13SOCD001A), was not collected using the drainage channel sample layout; thus, samples 13SOCF009A, 13SOCF010A, 13SOCF011A, 13SOCW022A, and 13SOCW023A were collected to replace sample 13SOCD001A. These samples were collected using the drainage channel sample layout shown on Figure 3-23. The results of sample 13SOCD001A are not discussed below but are shown in Table C.7.

In addition to verification samples collected at the Area 3 initial excavation, on February 5, 2009, Tetra Tech collected two concrete wipe samples from a previously power-washed culvert that drains Area 3 to verify that the concrete did not contain PCBs (Figure 3-23).

The following is a list of the Area 3, Round 1 verification soil and wipe samples:

13SOCF009A	13SOW022AA
13SOCF010A	13SOW022BA
13SOF010BA	13SOW022CA
13SOF010CA	13SOW022DA
13SOCF011A	13SOCW023A
13SOCF032B	13SOCW055B
13SOCF033B	13SOCW056B
13SOCF034B	13WP010
13SOCW022A	13WP011

The ten composite soil samples were field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. The two concrete wipe samples, the two aliquots of 13SOCF010A (13SOF010BA and 13SOF010CA), and the four aliquots of 13SOCW022A (13SOW022AA, 13SOW022BA, 13SOW022CA, and 13SOW022DA) were sent to the fixed-base laboratory without completing field test kits. Four composite

floor samples, two floor sample aliquots, two composite wall samples, four wall sample aliquots, and two wipe samples were sent to the fixed-base laboratory. Two composite floor samples (13SOCF032B and 13SOCF034B), two wall aliquots (13SOW022BA and 13SOW022CA), one wall sample (13SOCW055B), and the two concrete wipe samples (13WP010 and 13WP011) were verified clean by the fixed-base laboratory.

The results of the remaining field test kit and fixed-base laboratory sample analysis (13SOCF009A, 13SOCF010A, 13SOF010BA, 13SOF010CA, 13SOCF011A, 13SOCF033B, 13SOCW022A, 13SOW022AA, 13SOW022DA, 13SOCW023A, and 13SOCW056B) showed concentrations of PCBs greater than the cleanup goal. Based on these results, the Navy directed TolTest to excavate to a greater depth at these locations. Appendix C.7 contains test kit and laboratory results for all Area 3 samples.

Area 1, Round 1 Backfilling

TolTest backfilled the portions of Round 1 excavation verified clean by the fixed-base laboratory. On December 30, 2008, the Navy directed TolTest to excavate soil from areas near Building 171 outside the excavation areas for use as backfill in the Area 3 excavation that was verified clean.

3.2.9.2 Area 3 (Building 171 East Drainage Channel), Round 2

Round 2 Excavation and Off-Site Disposal

On December 30, 2008, and January 7 and 19, 2009, TolTest completed the Area 3, Round 2 excavation based on the Round 1 sample results. TolTest excavated to a greater depth at the following locations, as shown on Figure 3-24:

- From 2 to 3.5 feet bgs in the areas represented by sample locations 13SOCF033B and 13SOCW056B; and

- From 2 to 3 feet bgs in the areas represented by sample locations 13SOCF009A, 13SOCF010A (all four aliquots), 13SOCF011A, 13SOW022AA, 13SOW022DA, and 13SOCW023A.

Soil excavated on these dates was direct-loaded for transport to the landfill. On December 30, 2008, and January 7 and 19, 2009, four, one, and one loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 135.83 tons of non-TSCA soil was disposed of during Round 2. All documentation regarding waste

disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 2 Verification Sample Collection and Results

On December 30, 2008, and January 7 and 22, 2009, Tetra Tech collected seven verification composite samples, consisting of four floor samples and three wall samples, from the Area 3, Round 2 excavation (Figure 3-24). The four aliquots from three of the composite samples (13SOCF035B, 13SOCF036B, and 13SOCF037B) were all tested separately and are included in the table below. The following is a list of the Area 3, Round 2 verification samples:

13SOCF035B	13SOCF037B
13SOF035AB	13SOF037AB
13SOF035BB	13SOF037BB
13SOF035CB	13SOF037CB
13SOF035DB	13SOF037DB
13SOCF036B	13SOCF052C
13SOF036AB	13SOCW050B
13SOF036BB	13SOCW051B
13SOF036CB	13SOCW072C
13SOF036DB	

Composite samples 13SOCW050B and 13SOCW051B were not field-tested using the Rapid Assay PCB Test Kit. The remaining five composite samples and all four aliquots of samples 13SOCF035B, 13SOCF036B, and 13SOCF037B were field-tested to determine whether they should be sent to a fixed-base laboratory or further excavation was required. A mistake occurred during the field-test process for composite sample 13SOCF035B and accurate test kit results were only obtained for each aliquot but not the composite. Based on the test kits results, four composite floor samples and three composite wall samples were sent to the laboratory to confirm the results of the field tests. Three of the composite floor samples (13SOCF035B, 13SOCF037B (composite of aliquots A, B, and D), and 13SOCF052C) and two composite wall samples (13SOCW051B and 13SOCW072C) were verified clean by the fixed-base laboratory.

The results of the remaining field test kit and fixed-base laboratory sample analysis (13SOCF036B, aliquot C of 13SOCF037B, and 13SOCW050B) indicated concentrations of PCBs greater than the cleanup goal. Based on these results, the Navy directed TolTest to excavate to a greater depth at these locations. Appendix C.7 contains test kit and laboratory results for all Area 3 samples.

Area 3, Round 2 Backfilling

TolTest backfilled the portions of the Round 2 excavation verified clean by the fixed-base laboratory. On January 26, 2009, the Navy directed TolTest to excavate soil from areas near Building 171 outside of the excavation areas for use as backfill in the Area 3 excavation that was verified clean.

3.2.9.3 Area 3 (Building 171 East Drainage Channel), Round 3

Round 3 Excavation and Off-Site Disposal

On January 7 and 19, 2009, TolTest completed the Area 3, Round 3 excavation (Figure 3-25). TolTest excavated to a greater depth at the following locations, as shown on Figure 3-25:

- 3 to 3.5 feet bgs in the areas represented by sample location 13SOCF036B;
- 3 to 4 feet bgs in the areas represented by sample location 13SOCW050B; and
- 3 to 4.5 feet bgs in the area represented by aliquot C of sample location 13SOCF037B.

Soil excavated on these dates was direct-loaded for transport to the landfill. On January 7 and 19, 2009, two loads per day of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 91.79 tons of non-TSCA soil was disposed of during Round 3. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the dates indicated for more information on TolTest's site activities (Appendix I).

Round 3 Verification Sample Collection and Results

On January 7 and 22, 2009, Tetra Tech collected three composite samples and one grab sample, comprising three floor samples and one wall sample, from the Area 3, Round 3 excavation (Figure 3-25). All four aliquots of two composite samples (13SOCF051C and 13SOCW057C) were tested separately and are included in the table below. The following is a list of the Area 3, Round 3 verification samples:

13SOF050C	13SOF051DC
13SO2CF051C	13SOCW057C
13SOCF051C	13SOW057AC
13SOF051AC	13SOW057BC
13SOF051BC	13SOW057CC

13SOF051CC	13SOW057DC

Note that composite sample 13SOCF051C is not shown on Figure 3-25. 13SOF051DC (aliquot D of 13SOCF051C) is shown on Figure 3-25, as is 13SO2CF051C (a composite of aliquots A, B, and C of 13SOCF051C). The location of 13SOCF051C encompasses both 13SO2CF051C and 13SOF051DC.

Two composite samples (13SOCF051C and 13SOCW057C), the grab sample (13SOF050C), and all four aliquots of 13SOCF051C and 13SOCW057C were field-tested using the Rapid Assay PCB Test Kit to determine whether the samples should be sent to a fixed-base laboratory or whether further excavation was required. Sample 13SO2CF051C was not field-tested because it is a composite of aliquots A, B, and C from 13SOCF051C, and all aliquots of 13SOCF051C were field-tested individually. Based on the test kit results, 13SOF050C, 13SO2CF051C (composite of aliquots A, B, and C from 13SOCF051C), 13SOCF051C (composite of aliquots A, B, C, and D), and 13SOCW057C (composite of aliquots A, B, and C) were sent to the laboratory to confirm the results of the field tests. Samples 13SOF050C, 13SO2CF051C (containing only aliquots A, B, and C from 13SOCF051C), and 13SOCW057C (only aliquots A, B, and C) were verified clean by the fixed-base laboratory.

The test kit and laboratory results of the remaining samples, 13SOF051DC [aliquot D of 13SOCF051C] and 13SOW057DC [aliquot D of 13SOCW057C], contained concentrations of PCBs greater than the cleanup goal. Based on these results, the Navy directed TolTest to excavate to a greater depth at these locations. Appendix C.7 contains test kit and laboratory results for all Area 3 samples.

Area 3, Round 3 Backfilling

TolTest backfilled the portions of the Round 3 excavation verified clean by the fixed-base laboratory. On January 26, 2009, the Navy directed TolTest to excavate soil from areas near Building 171 outside the excavation areas for use as backfill in the Area 3 excavation that was verified clean.

3.2.9.4 Area 3 (Building 171 East Drainage Channel), Round 4

Round 4 Excavation and Off-Site Disposal

On January 19, February 5, 6, and June 23, 2009, TolTest completed the Area 3, Round 4 excavation (Figure 3-26). TolTest excavated to a greater depth at the following locations, as shown on Figure 3-26:

- 3.5 to 5.5 feet bgs in the area represented by sample location 13SOF051DC; and,
- 4 to 5.5 feet bgs in the area represented by sample location 13SOW057DC.

Aliquot B of 13SOCF051C was excavated initially instead of aliquot D. The correct location, aliquot D, was later excavated.

Soil excavated January 19, 2009, was direct-loaded for transport to the landfill. Soil excavated February 5, 2009, was likely stockpiled for disposal on February 6, 2009. Because Round 4 samples were collected February 5, 2009, and not February 6, 2009, it is assumed that the Area 3 excavation work noted on the February 6, 2009, daily report was actually associated with loading material from the stockpile.

On February 6, 2009 and June 23, 2009, three and one loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 89.31 tons of non-TSCA soil was disposed of during Round 4. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 4 Verification Sample Collection and Results

On January 22, February 5, and June 23, 2009, Tetra Tech collected six composite samples and two grab samples, comprising two floor samples and six wall samples, from the Area 3, Round 4 excavation (Figure 3-26). The following is a list of the Area 3, Round 4 verification samples:

13SOF055BD	13SOCW091A
13SOCF060C	13SOCW092A
13SOCW071C	13SOCW093A
13SOW071AC	13SOCW094A

Samples were sent to the lab without completing field-testing, with the exception of aliquot A of 13SOCW071A. Samples 13SOF055BD, 13SOCF060C, 13SOCW091A, 13SOCW092A, 13SOCW093A, and 13SOCW094A were verified clean by the fixed-base laboratory. Composite sample 13SOCW071C was made up of aliquot 13SOW071AC and aliquots A, B, and C from Round 3 sample 13SOCW057C. Aliquots A, B, and C of 13SOCW057C were verified clean during Round 3. The laboratory result for 13SOCW071C had a PCB concentration exceeding the cleanup goal, and since A, B, and C from 13SOCW057C were clean the exceedance was attributed to a higher PCB concentration in 13SOW071AC. Based on the laboratory result for 13SOCW071C, the Navy directed TolTest to expand the excavation to a greater depth at 13SOW071AC.

As mentioned in the Round 3 section above, aliquot B of 13SOCF051C was excavated initially instead of aliquot D. Sample 13SOF055BD was collected after the additional excavation in the area represented by aliquot B. Samples 13SOCF060C and 13SOCW091A through 13SOCW094A were collected after the additional excavation in the area represented by aliquot D and are shown on Figure 3-26. Appendix C.7 contains test kit and laboratory results for all Area 3 samples.

Area 3, Round 4 Backfilling

TolTest backfilled the portions of the Round 4 excavation verified clean by the fixed-base laboratory. On January 26, February 6, and June 24, 2009, the Navy directed TolTest to excavate soil from areas near Building 171 outside the excavation areas for use as backfill in the Area 3 excavation that was verified clean.

3.2.9.5 Area 3 (Building 171 East Drainage Channel), Round 5

Round 5 Excavation and Off-Site Disposal

On February 5, 2009, TolTest completed the Area 3, Round 5 excavation (Figure 3-27). TolTest excavated to a greater depth at the following location, as shown on Figure 3-27:

- 5.5 to 7.5 feet bgs, at 13SOW071AC (aliquot A of sample location 13SOCW071C).

On February 9, 2009, one load of non-TSCA soil was transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. Because the Round 5 sample was collected February 5, 2009, it is assumed that Round 5 material was stockpiled prior to loading on February 9, 2009. A total of 22.42 tons of non-TSCA soil was disposed of during Round 5. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 5 Verification Sample Collection and Results

On February 5, 2009, Tetra Tech collected one aliquot sample (13SOW075AD) from the Area 3, Round 5 excavation (Figure 3-27). This sample was sent to the fixed-base laboratory without completing field-testing and was verified clean by the laboratory. Based on the laboratory results for 13SOW075AD, the Navy did not recommend any further excavation at Area 3. Figure 3-28 shows the Area 3 final excavation

limits, the IMWP proposed excavation limits, and verification sample results used to define the final excavation extent at Area 3. Final excavation limits and locations of all verification samples were determined using a combination of GPS points collected by Tetra Tech, Tetra Tech's field sketches and notes, and survey provided by TolTest. Appendix C.7 contains test kit and laboratory results for all samples collected at Area 3. Table 3-8 contains laboratory sample results used to verify that final excavation limits were below the cleanup goals at Area 3.

Area 3, Round 5 Backfilling

On February 6, 2009, the Navy directed TolTest to excavate soil from areas near Building 171 outside the excavation areas for use as backfill in the Area 3 excavation that was verified clean.

3.2.10 Area 4 (Building 171 West Drainage Channel)

The following is a summary of the samples collected and the amount of material disposed of at Area 4.

Area	Excavation Round	Samples Collected[1]	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[2]	Non-TSCA Material Disposed (tons)[2]	Incoming Backfill Material (tons)
4	1	38	36	20	0	784.53	NA
4	2	3	3	3	0	139.32	NA
Total	2	41	39	23	0	923.85	NA

Notes
1 Number of samples includes aliquots tested separately.
2 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not Applicable (material obtained from an on-site source).

3.2.10.1 Area 4 (Building 171 West Drainage Channel), Round 1

Round 1 Excavation and Off-Site Disposal

Initial clearing at Area 4 began November 20, 2008. Between January 7 and 9, 2009, TolTest prepared the Building 171 west drainage channel area for excavation. On January 12, 2009, TolTest built an access road at Area 4. TolTest completed the Area 4, Round 1 excavation on January 13, 14, and 15, 2009 (Figure 3-29). Soil excavated on these dates was direct-loaded for transport to the landfill. On January 26, 2009, TolTest pressure-washed the Area 4 culvert.

On January 13, 14, and 15, 2009, 13, 10, and 13 loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of

784.53 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

On January 15, 2009, Tetra Tech collected 20 verification composite soil samples, consisting of 12 floor and eight wall samples, from the Area 4 initial excavation (Figure 3-29). As directed by the Navy, all four aliquots from four of the composite samples (13SOCF039A, 13SOCF040A, 13SOCF041A, and 13SOCW063A) were tested separately to delineate the contamination. These 16 aliquots are included in the table below and in Appendix C.8. In addition to verification samples collected at the Area 4 initial excavation, on February 5, 2009, Tetra Tech collected two concrete wipe samples from the power-washed culvert in Area 4 to verify that the concrete did not contain PCBs (Figure 3-29).

The following is a list of the Area 4, Round 1 verification samples:

13SOCF038A	13SOCF045A
13SOCF039A	13SOCF046A
13SOF039AA	13SOCF047A
13SOF039BA	13SOCF048A
13SOF039CA	13SOCF049A
13SOF039DA	13SOCW063A
13SOCF040A	13SOW063AA
13SOF040AA	13SOW063BA
13SOF040BA	13SOW063CA
13SOF040CA	13SOW063DA
13SOF040DA	13SOCW064A
13SOCF041A	13SOCW065A
13SOF041AA	13SOCW066A
13SOF041BA	13SOCW067A
13SOF041CA	13SOCW068A
13SOF041DA	13SOCW069A
13SOCF042A	13SOCW070A
13SOCF043A	13WP012
13SOCF044A	13WP013

As indicated in the IMWP, each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or further excavation was

required. Additionally, all four aliquots of samples 13SOCF039A, 13SOCF040A, 13SOCF041A, and 13SOCW063A were field-tested to further refine potential areas of contamination and minimize excavation of clean soil. Based on the test kit results, 11 of 12 floor samples and seven of eight wall samples were sent to the fixed-base laboratory to confirm the results of the field tests. The following six floor samples and seven wall samples were verified clean by the laboratory: 13SOCF039A, 13SOCF040A (composite of aliquots A, B, and D), 13SOCF042A through 13SOCF049A, 13SOCW063A (composite of aliquots A, B, and C), and 13SOCW065A through 13SOCW070A.

The results of the remaining test kit and fixed-base laboratory samples (13SOCF038A, aliquot C of 13SOCF040A, 13SOCF041A, aliquot D of 13SOCW063A, and 13SOCW064A) contained concentrations of PCBs greater than the cleanup goal. Based on these results, the Navy directed TolTest to expand the depth of the excavation at these locations. Appendix C.8 contains test kit and laboratory results for all samples collected at Area 4.

Round 1 Backfilling

On January 22, 2009, TolTest backfilled the bottom end of the Area 4 excavation (west of the culvert) that was verified clean by the fixed-base laboratory. On January 23, 2009, TolTest backfilled the portion of the drainage channel below the railroad bed. The Navy directed TolTest to excavate soil from areas of SWMU 13 outside the excavation areas for use as backfill in the Area 4 excavation that was verified clean.

3.2.10.2 Area 4 (Building 171 West Drainage Channel), Round 2

Round 2 Excavation and Off-Site Disposal

TolTest completed the Area 4, Round 2 excavation January 22 and 23, 2009 (Figure 3-30). TolTest excavated from 2 to 3 feet bgs at the following locations, as shown on Figure 3-30:

- 13SOCF038A
- 13SOF040CA
- 13SOCF041A
- 13SOW063DA
- 13SOCW064A

Soil excavated on these dates was direct-loaded for transport to the landfill. On January 22 and 23, 2009, two and four loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 139.32 tons of non-TSCA soil was disposed of during Round 2. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 2 Verification Sample Collection and Results

On January 22, 2009, Tetra Tech collected three verification composite soil samples, consisting of one wall and two floor samples, from the Area 4, Round 2 excavation (Figure 3-30). The following are the Area 4, Round 2 verification samples:

13SOCF053B	13SOCF054B	13SOCW074B

As indicated in the IMWP, each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or whether further excavation was required. Based on the test kit results, all three samples were sent to the laboratory to confirm the results of the field tests. All three samples were verified clean by the fixed-base laboratory. Based on the laboratory results, the Navy recommended no further excavation at Area 4.

Figure 3-31 shows the Area 4 final excavation limits, the IMWP proposed excavation limits, and verification sample results used to define the final excavation extent at Area 4. Portions of the survey provided by TolTest were grading limits and portions were final excavation limits. Therefore, the final excavation limits and locations of all verification samples were determined using a combination of GPS points collected by Tetra Tech, Tetra Tech's field sketches and notes, and survey data provided by TolTest. Specifically, the excavation limits west of the culvert were obtained from the survey provided by TolTest and the remaining excavation limits were determined using the methods stated above. Appendix C.8 contains test kit and laboratory results for all samples collected at Area 4. Table 3-9 contains laboratory sample results used to verify that final excavation limits were below the cleanup goals at Area 4.

Round 2 Backfilling

On February 2, 5, and 6, 2009, TolTest backfilled the remaining portion of the Area 4 excavation verified clean by the fixed-base laboratory. The Navy directed TolTest to excavate soil from areas of SWMU 13 outside the excavation areas for use as backfill in the Area 4 excavation that was verified clean.

3.2.11 Area 5 (Building 169 Drainage Channel)

The following is a summary of the samples collected and the amount of material disposed of from Area 5.

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Incoming Backfill Material (tons)
5	1	5	5	5	0	118.84	101.27
Total	1	5	5	5	0	118.84	101.27

Note
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.

3.2.11.1 Area 5 (Building 169 Drainage Channel), Round 1

Round 1 Excavation and Off-Site Disposal

TolTest cleared Area 5 November 13 and 14, 2008. TolTest completed the Area 5, Round 1 excavation on November 18 and 19, 2008 (Figure 3-32). Soil excavated on these dates was direct-loaded for transport to the landfill.

On November 18 and 19, 2008, three and two loads, respectively, of non-TSCA soil were transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 118.84 tons of non-TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

On November 20, 2009, Tetra Tech collected five verification composite soil samples, consisting of three floor samples and two wall samples, from the Area 5 initial excavation (Figure 3-32).

The following is a list of the Area 5, Round 1 verification samples:

13SOCF013A	13SOCW028A
13SOCF014A	13SOCW029A
13SOCF015A	

As indicated in the IMWP, each composite sample was field-tested using the Rapid Assay PCB Test Kit to determine whether the sample should be sent to a fixed-base laboratory or further excavation was required. Based on the test kit results, all five composite samples were sent to the laboratory to confirm the results of the field tests. All five samples were verified clean by the fixed-base laboratory, and the Navy recommended no further excavation at Area 5. Figure 3-32 shows the Area 5 final excavation limits, the IMWP proposed excavation limits, and verification sample results used to define the final excavation extent at Area 5. The final excavation limit survey provided by TolTest was compared to Tetra Tech's field notes and pictures and was used to represent the final excavation limits at Area 5. Appendix C.9 contains test kit and laboratory results for all samples collected at Area 5. Table 3-10 contains laboratory sample results used to verify that the final excavation limits were below the cleanup goals at Area 5.

Round 1 Backfilling

The table in TolTest's December 5, 2008, daily report and the notes from the November 18 and 19, 2008, daily reports indicate that three loads and one load, respectively, of backfill were brought to the site on November 18 and 19, 2008. No backfill tickets were provided for this material.

3.2.12 Area 5A (Building 169 Sump and Culvert)

The following is a summary of the samples collected and the amount of material disposed of from Area 5A.

Area	Excavation Round	Samples Collected	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[1]	Non-TSCA Material Disposed (tons)[1]	Incoming Backfill Material (tons)
5A	1	9	0	9	21.71~~42.37~~	0	NA
5A	Exploratory	1	0	1	0	0	None
Total	2	10	0	10	21.71~~42.37~~	0	NA

Note
1 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA = Not Applicable (material obtained from an on-site source).

3.2.12.1 Area 5A (Building 169 Sump and Culvert), Round 1

Exploratory Sample Collection and Results

On August 13, 2009, Tetra Tech collected an exploratory sump sample (13SD082) from the Building 169 Sump in Area 5A (Figure 3-33). This sample was sent to the lab and results indicated that sediment in the sump contained PCB concentrations greater than the cleanup goal. Based on the results of this sample, the Navy directed TolTest to demolish the sump and transport the sediment and concrete off-site for disposal. See Table 3-9 or Appendix C.10 for the results of this sample.

Round 1 Excavation and Off-Site Disposal

On January 26, 2009, TolTest power-washed the culvert upstream of the Building 169 drainage channel (Figure 3-33). On March 17, 2010, TolTest demolished the sump (Figure 3-34) and one~~two~~ load~~s~~ of TSCA sediment and concrete was~~ere~~ transported by U.S. Bulk Transport, Inc. to Heritage Environmental Services, LLC in Roachdale, Indiana for disposal. A total of 21.71~~42.37~~ tons of TSCA soil was disposed of during Round 1. All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 1 Verification Sample Collection and Results

After the sump was removed, Tetra Tech collected verification samples, consisting of two floor samples and five wall samples, from the Area 5A initial excavation on March 18, 2010 (Figure 3-34). In addition to verification samples collected from the sump excavation, Tetra Tech collected two concrete wipe samples from the power-washed culvert in Area 5A on February 5, 2009, to verify that the concrete did not contain PCBs (Figure 3-33).

The following is a list of the Area 5A, Round 1 verification samples:

13SOCF071	13SOCW117
13SOCF072	13SOCW118
13SOCW114	13WP014A
13SOCW115	13WP015A
13SOCW116	

Samples were sent to the fixed-base laboratory without completing field tests. All verification soil and concrete wipe samples were verified clean by the fixed-base laboratory. Based on these results, the Navy recommended no further excavation at Area 5A. Figure 3-34 shows the Area 5A final excavation limits and verification sample results used to define the final excavation extent at Area 5A. TolTest did not provide a final excavation limit survey for this area, thus final excavation limits and locations of verification samples were determined using Tetra Tech's field notes and sketches. Appendix C.10 contains test kit and laboratory results for all samples collected at Area 5A. Table 3-11 contains laboratory sample results used to verify that final excavation limits were below the cleanup goals at Area 5A.

3.2.13 Support Areas

The following is a summary of the samples collected and the amount of material excavated and disposed of from the SWMU 13 Support Areas. Locations of the support areas are shown on Figure 3-35.

Area	Excavation Round	Samples Collected[1]	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[2]	Non-TSCA Material Disposed (tons)[2]	Incoming Backfill Material (tons)
Support	1	10	0	10	0	0	None
Support	2	1	0	1	0	22.59	NA
Total	2	11	0	11	0	22.59	NA

Notes
1 Number of samples includes aliquots tested separately
2 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.
NA Not Applicable (material obtained from an on-site source).

3.2.13.1 Support Areas, Round 1

Round 1 Verification Sample Collection and Results

On December 18, 2009, Tetra Tech collected six verification composite samples from the top six inches of soil in the following SWMU 13 support areas: the three load-out areas located east of Building 171, east of Building 166, and west of the Building 171 west drainage channel; the two temporary access roads constructed at the Building 171 west drainage channel and the Building 169 drainage channel; and the former soil stockpile near Building 2502. Due to an exceedance in composite sample 13SOCF065, the four aliquots from sample 13SOCF065 were tested separately to delineate contamination and are included as part of Round 1. Figure 3-35 shows the locations of the Round 1 support area samples. The Area 2A and 5A excavations had not occurred at this time, so no support area samples were collected from Area 2A or Area 5A.

The following is a list of the Support Area, Round 1 verification samples:

13SOCF065	13SOCF066
13SOF065A	13SOCF067
13SOF065B	13SOCF068
13SOF065C	13SOCF069
13SOF065D	13SOCF070

Samples were sent to the fixed-base laboratory without completing field tests. The following verification soil samples were verified clean by the fixed-base laboratory: 13SOCF066, 13SOCF067, 13SOCF068, 13SOCF069, and 13SOCF070. Sample 13SOCF065 showed concentrations of PCBs greater than the cleanup goals. The Navy instructed Tetra Tech to send each aliquot from sample 13SOCF065 separately to the fixed-base laboratory to delineate the contamination at the Building 171 load-out area. All four aliquots from 13SOCF065 showed concentrations of PCBs greater than the cleanup goal.

Based on these results, the Navy directed TolTest to expand the excavation at location 13SOCF065. Appendix C.11 contains test kit and laboratory results for all samples collected at the Support Areas.

3.2.13.2 Support Areas, Round 2

Round 2 Excavation and Off-Site Disposal

On March 15, 2010, TolTest completed the excavation of contaminated soil at the Building 171 load-out area (Figure 3-36). TolTest excavated the following, as shown on Figure 3-36:

- 0 to 6 inches bgs at location 13SOCF065.

One load of non-TSCA soil was transported by U.S. Bulk Transport, Inc. to Sycamore Ridge Landfill in Pimento, Indiana for disposal. A total of 22.59 tons of non-TSCA soil was disposed of during Round 2. Because the temporary access roads were verified clean by the Round 1 samples, the aggregate was recycled for use at other areas of NSA Crane.

All documentation regarding waste disposal is provided in Appendix J.1. Appendix H contains a table summarizing material disposed. See the daily reports for the indicated dates for more information on TolTest's site activities (Appendix I).

Round 2 Verification Sample Collection and Results

On March 18, 2010, Tetra Tech collected one verification floor sample (13SOCF074) from the Round 2 support area excavation (Figure 3-36). The sample was sent to the fixed-base laboratory without completing a field test. Sample 13SOCF074 was verified clean by the fixed-base laboratory.

Based on these results, the Navy recommended no further action at the support areas. Figure 3-36 shows the additional excavation based on the results of the Round 1 samples. The locations of all verification sample aliquots shown on Figure 3-35 and 3-36 were determined using GPS coordinates. Final excavation limits at the support area, shown on Figure 3-37, were based on Tetra Tech's GPS coordinates and field measurements. Appendix C.11 contains test kit and laboratory results for all samples collected at the Support Areas. Table 3-12 contains laboratory sample results used to verify that support areas were below the cleanup goals.

TABLE 3-1

SUMMARY OF SAMPLES COLLECTED AND MATERIAL DISPOSED
SWMU 13 INTERIM MEASURES REPORT
NSA CRANE
CRANE, INDIANA

Area	Excavation Round	Samples Collected[1]	Samples Field Tested	Samples Sent to Lab	TSCA Material Disposed (tons)[2]	Non-TSCA Material Disposed (tons)[2]	Incoming Backfill Material (tons)
1	1	18	18	13	0	233.79	NA
1	2	8	8	6	0	186.89	NA
1	3	3	2	3	0	64.30	NA
1	Exploratory	7	4	5	0	0	None
1A	1	22	0	22	46.49	416.64	333.63
1A	2	6	0	6	0	6.63	NA
1A	3	3	0	3	2.12	0	NA
1A	Exploratory	78	43	10	0	0	None
1B	1	3	3	0	0	47.60	None
2	1	40	31	37	545.71	836.83	103.34
2	2	11	6	9	298.47	182.78	NA
2A	1	4	2	2	20.66	89.76	NA
2A	2	5	0	5	91.25	0	NA
2A	3	32	32	30	236.23	208.46	NA
2A	4	8	5	8	17.85	192.90	NA
2A	5	3	2	3	0	41.20	NA
2A	Exploratory	117	16	101	0	0	None
2B	1	9	0	9	0	203.08	NA
2B	Exploratory	2	0	2	0	0	None
3	1	19	11	13	73.40	45.61	NA
3	2	19	16	7	0	135.83	NA
3	3	12	11	4	0	91.79	NA
3	4	8	1	7	0	89.31	NA
3	5	1	0	1	0	22.42	NA
4	1	38	36	20	0	784.53	NA
4	2	3	3	3	0	139.32	NA
5	1	5	5	5	0	118.84	101.27
5A	1	9	0	9	21.71	0	NA
5A	Exploratory	1	0	1	0	0	None
Support Area	1	10	0	10	0	0	None
Support Area	2	1	0	1	0	22.59	NA
Total	31	505	255	355	1,353.89	4,161.10	538.24

Notes

1 Number of samples collected includes aliquots that were tested separately.

2 The net weight of material carried by each truck, as determined by the NSA Crane truck scale, was used to determine the amount of material disposed.

NA Not Applicable (material obtained from on-site source)

4.0 CONCLUSIONS

This IM Report summarizes the work performed at NSA Crane, SWMU 13 – MFB, by TolTest and the verification sampling conducted by Tetra Tech. Excavation at SWMU 13 began November 3, 2008, and was completed July 19, 2010.

TolTest performed excavation activities in 11 areas (10 excavation areas and one support area) at SWMU 13 – MFB. A total of 4,161.1 ~~113.5~~ tons of non-TSCA material and 1,353.89 tons of TSCA material were disposed of during this IM (Table 3-1). TolTest backfilled the majority of the excavation areas to the original, pre-excavation grades and regraded some areas to match the surrounding grade. The majority of backfill placed in the excavations was obtained from on-site sources; however, 538.24 tons of off-site backfill was placed in portions of the excavations, as discussed in Section 3.0.

Upon completion of the interim remedial activities at SWMU 13, 505 verification samples (13SOCF001A through -094, 13SOCW001A through -165, and 13SB109 through -201) were collected (including those aliquots that were analyzed separately) from the walls and floors of the 10 excavation areas and support areas to verify that the remaining soils did not pose an unacceptable human health or ecological risk (Table 3-1). Of the 505 samples collected, 255 were field-tested using the Rapid Assay PCB test kit to determine whether to send the samples to the fixed-base laboratory to verify the field test results. Verification samples not analyzed in the field were sent to the fixed-base laboratory. A total of 355 verification samples were sent to the fixed-base laboratory for analysis. Test kit and fixed-base laboratory analytical results for all samples collected are summarized in Section 3, with additional data being included in the tables in Appendix C (C.1 through C.11). Appendix B contains data validation letters and verification sample results, as reported by the laboratory.

The results of the analytical data demonstrate that the soil and sediment excavation and removal conducted during the interim remedial action was successful in removing contamination that posed unacceptable human health and ecological risk at SWMU 13. No further action is recommended for the areas shown on Figure 3-1 at SWMU 13 – MFB.

Appendix H
NSA Crane
Manifests and Weight of Material Disposed by Area and Round
SWMU 13 Interim Measures Report

Truck Number [1]	Date	Time [2]	Manifest #	Crane Scale Non Hazardous Net Weight (lbs.)	Crane Scale TSCA Net Weight (lbs.)	Incoming Fill Dirt Net Weight (lbs.)	Clean Harbors Non-Hazardous (gal)	Republic Scale Non Hazardous Net Weight (lb.)	Heritage Scale TSCA Hazardous Net Weight (lbs	Tare Weight (lbs.) [4]	Building Area	Round
1024-4	11/17/2008	8:32	2	48,740	NA	NA	NA	48,460 [3]	NA	31,800	1	1
1024-1	11/17/2008	8:51	3	48,060	NA	NA	NA	48,300 [3]	NA	31,900	1	1
1024-2	11/17/2008	9:05	4	48,608	NA	NA	NA	48,520 [3]	NA	31,560 [5]	1	1
1022	11/17/2008	9:16	5	44,580	NA	NA	NA	44,600 [3]	NA	31,040	1	1
1009	11/17/2008	12:16	6	47,140	NA	NA	NA	46,680 [3]	NA	32,140	1	1
1024-4	11/17/2008	13:27	7	45,380	NA	NA	NA	48,360 [3]	NA	34,580	1	1
1024-1	11/17/2008	14:11	8	45,080	NA	NA	NA	45,360 [3]	NA	31,740	1	1
1024-2	11/17/2008	14:14	9	48,020	NA	NA	NA	47,920 [3]	NA	31,400	1	1
1022	11/17/2008	14:29	10	46,140	NA	NA	NA	45,980 [3]	NA	30,820	1	1
1075-1	12/29/2008	3:22	67	45,840	NA	NA	NA	45,840 [3]	NA	32,980	1	1
1075-2	12/29/2008	3:19	68	46,060	NA	NA	NA	46,060 [3]	NA	31,560	1	2
1022	12/29/2008	9:01	60	48,400	NA	NA	NA	47,760 [3]	NA	31,640	1	2
1009	12/29/2008	9:04	61	45,620	NA	NA	NA	45,560 [3]	NA	32,920	1	2
1012	12/29/2008	9:15	62	46,140	NA	NA	NA	46,200 [3]	NA	31,820	1	2
1084	12/29/2008	1:33	63	46,380	NA	NA	NA	45,740 [3]	NA	33,280	1	2
1074	12/29/2008	1:47	64	46,360	NA	NA	NA	46,180 [3]	NA	32,840	1	2
1022	12/29/2008	2:13	65	48,280	NA	NA	NA	47,960 [3]	NA	31,580	1	2
1012	12/29/2008	2:24	66	46,540	NA	NA	NA	46,640 [3]	NA	31,800	1	2
1074	1/19/2009	9:41	124	43,620	NA	NA	NA	---	NA	33,200	1	3
1012	1/19/2009	10:04	125	42,760	NA	NA	NA	44,000 [3]	NA	32,800	1	3
1022	1/19/2009	10:36	126	42,220	NA	NA	NA	44,000 [3]	NA	31,460	1	3
1024-3	11/6/2008	8:32	206070WAS	NA	45,460	NA	NA	NA	45,160	32,380	2	1
1024-2	11/6/2008	8:47	206068WAS	NA	47,780	NA	NA	NA	47,580	31,080	2	1
1024-4	11/6/2008	9:01	206069WAS	NA	48,600	NA	NA	NA	48,360	30,320	2	1
1022	11/6/2008	9:16	206056WAS	NA	47,540	NA	NA	NA	43,420	30,840	2	1
1024-3	11/6/2008	2:16	206058WAS	NA	47,000	NA	NA	NA	46,460	31,920	2	1
1024-2	11/6/2008	2:01	206057WAS	NA	50,320	NA	NA	NA	49,860	30,580	2	1
1024-4	11/6/2008	2:29	206059WAS	NA	49,920	NA	NA	NA	49,560	30,080	2	1
1024-3	11/7/2008	8:15	206060WAS	NA	47,040	NA	NA	NA	46,520	32,220	2	1
1024-4	11/7/2008	8:26	206061WAS	NA	49,900	NA	NA	NA	49,880	30,480	2	1
1024-2	11/7/2008	8:34	206062WAS	NA	49,100	NA	NA	NA	48,980	31,260	2	1
1022	11/7/2008	10:32	206063WAS	NA	48,920	NA	NA	NA	48,920	31,040	2	1
1024-2	11/7/2008	1:42	206064WAS	NA	48,800	NA	NA	NA	48,640	30,920	2	1
1024-3	11/7/2008	1:48	206065WAS	NA	48,680	NA	NA	NA	48,160	31,960	2	1
1024-4	11/7/2008	1:53	206066WAS	NA	49,960	NA	NA	NA	49,000	30,060	2	1
1009	11/10/2008	8:26	206049WAS	NA	46,400	NA	NA	NA	47,260	32,360	2	1
1009	11/10/2008	1:17	206050WAS	NA	41,860	NA	NA	NA	41,340	31,800	2	1
1024-1	11/10/2008	1:44	206051WAS	NA	48,460	NA	NA	NA	49,380	30,980	2	1
1024-2	11/10/2008	1:51	206052WAS	NA	44,780	NA	NA	NA	45,540	30,860	2	1
1024-4	11/10/2008	2:14	206053WAS	NA	48,500	NA	NA	NA	49,080	31,280	2	1
1009	11/12/2008	8:29	206054WAS	NA	46,780	NA	NA	NA	46,460	32,300	2	1
1024-2	11/12/2008	8:57	206055WAS	NA	46,800	NA	NA	NA	47,340	31,840	2	1
1009	11/12/2008	2:23	206067WAS	NA	42,620	NA	NA	NA	43,220	32,000	2	1
1009	11/17/2008	8:21	1	46,320	NA	NA	NA	45,160 [3]	NA	32,260	2	1
1024-1	12/1/2008	8:02	20	46,440	NA	NA	NA	46,700 [3]	NA	31,900	2	1
1022	12/1/2008	8:38	21	48,640	NA	NA	NA	48,600 [3]	NA	30,820	2	1
1009	12/1/2008	8:42	22	44,380	NA	NA	NA	44,400 [3]	NA	31,820	2	1
10506	12/1/2008	8:54	23	43,140	NA	NA	NA	44,000 [3]	NA	33,120	2	1
1024-1	12/1/2008	13:58	24	47,900	NA	NA	NA	47,560 [3]	NA	31,700	2	1
529/1009	12/1/2008	14:37	25	48,080	NA	NA	NA	48,120 [3]	NA	31,460	2	1
506	12/1/2008	14:42	26	46,760	NA	NA	NA	46,780 [3]	NA	32,980	2	1
10506	12/2/2008	8:37	27	46,020	NA	NA	NA	45,900 [3]	NA	33,800	2	1
1024-4	12/2/2008	8:41	28	47,500	NA	NA	NA	47,500 [3]	NA	31,520	2	1
1024-1	12/2/2008	8:42	29	46,700	NA	NA	NA	46,500 [3]	NA	31,940	2	1
1022	12/2/2008	9:15	30	49,120	NA	NA	NA	49,240 [3]	NA	31,280	2	1
1084	12/2/2008	9:20	31	45,900	NA	NA	NA	46,080 [3]	NA	33,160	2	1
1024-1	12/2/2008	12:47	32	45,740	NA	NA	NA	45,800 [3]	NA	31,580	2	1
1024-4	12/2/2008	12:54	33	48,160	NA	NA	NA	45,760 [3]	NA	31,400	2	1
10506	12/2/2008	12:55	34	45,740	NA	NA	NA	48,160 [3]	NA	33,480	2	1
1022	12/2/2008	1:09	35	45,000	NA	NA	NA	45,000 [3, 6]	NA	30,960	2	1
1084	12/2/2008	1:16	36	46,700	NA	NA	NA	46,620 [3]	NA	32,780	2	1
1024-1	12/3/2008	7:47	37	46,520	NA	NA	NA	46,840 [3]	NA	32,300	2	1
1024-4	12/3/2008	7:48	38	47,880	NA	NA	NA	48,060 [3]	NA	31,760	2	1
10506	12/3/2008	8:31	39	45,600	NA	NA	NA	45,740 [3]	NA	33,300	2	1
1009/529	12/3/2008	8:50	40	46,380	NA	NA	NA	46,540 [3]	NA	32,260	2	1
1084	12/3/2008	8:57	41	44,280	NA	NA	NA	44,400 [3]	NA	33,980	2	1
1022	12/3/2008	9:01	42	47,520	NA	NA	NA	47,520 [3]	NA	31,140	2	1
1084	12/3/2008	2:40	48	45,880	NA	51,620 [7]	NA	46,040 [3]	NA	33,780	2	1
1022	12/3/2008	2:54	49	48,720	NA	51,620 [7]	NA	48,900 [3]	NA	30,960	2	1
1009	12/4/2008	9:00	50	46,660	NA	NA	NA	46,700 [3]	NA	32,940	2	1
10506	12/4/2008	9:02	51	44,740	NA	NA	NA	44,540 [3]	NA	34,000	2	1
1022	12/4/2008	9:13	52	47,380	NA	NA	NA	47,320 [3]	NA	31,040	2	1

Appendix H
NSA Crane
Manifests and Weight of Material Disposed by Area and Round
SWMU 13 Interim Measures Report

Truck Number [1]	Date	Time [2]	Manifest #	Crane Scale Non Hazardous Net Weight (lbs.)	Crane Scale TSCA Net Weight (lbs.)	Incoming Fill Dirt Net Weight (lbs.)	Clean Harbors Non-Hazardous (gal)	Republic Scale Non Hazardous Net Weight (lb.)	Heritage Scale TSCA Hazardous Net Weight (lbs	Tare Weight (lbs.) [4]	Building Area	Round
1052	12/23/2008	8:54	54	46,480	NA	NA	NA	46,600 [3]	NA	32,100	2	1
1074	12/23/2008	9:04	55	46,040	NA	NA	NA	46,240 [3]	NA	33,200	2	1
1056	12/23/2008	9:27	56	45,380	NA	NA	NA	45,620 [3]	NA	33,580	2	1
1022	12/23/2008	9:30	57	46,180	NA	NA	NA	46,100 [3]	NA	31,140	2	1
1009	12/30/2008	8:37	69	47,500	NA	NA	NA	47,640 [3]	NA	32,860	2	1
1022	12/30/2008	8:51	70	48,180	NA	NA	NA	48,060 [3]	NA	31,720	2	1
1074	12/30/2008	9:05	71	44,100	NA	NA	NA	44,820 [3]	NA	32,580	2	1
1074	12/22/2008	2:00	206034WAS	NA	46,220	NA	NA	NA	46,220	32,180	2	1
1024-1	12/3/2008	12:48	206031WAS	NA	47,920	NA	NA	NA	48,420	31,940	2	2
1024-4	12/3/2008	12:59	206032WAS	NA	45,980	NA	NA	NA	46,740	31,600	2	2
1047	12/3/2008	1:09	43	47,780	NA	NA	NA	47,460 [3]	NA	32,680	2	2
1009-529	12/3/2008	1:29	44	47,600	NA	50,320 [7]	NA	47,460 [3]	NA	31,820	2	2
10506	12/3/2008	1:52	45	46,460	NA	53,120 [7]	NA	46,880 [3]	NA	33,360	2	2
10505	12/3/2008	2:07	46	44,100	NA	NA	NA	---	NA	30,900	2	2
510	12/3/2008	2:19	47	45,240	NA	NA	NA	45,140 [3]	NA	31,400	2	2
1022	12/22/2008	1:27	206033WAS	NA	48,640	NA	NA	NA	48,640	31,680	2	2
1074	12/29/2008	8:26	58	44,700	NA	NA	NA	44,800 [3]	NA	32,940	2	2
1084	12/29/2008	8:40	59	42,740	NA	NA	NA	44,000 [3]	NA	33,420	2	2
1012	12/30/2008	9:07	72	46,940	NA	NA	NA	47,260 [3]	NA	31,840	2	2
1009	1/6/2009	8:35	206035WAS	NA	46,340	NA	NA	NA	46,200	32,300	2	2
10506	1/6/2009	8:42	206036WAS	NA	42,800	NA	NA	NA	42,620	35,780	2	2
1009	1/6/2009	2:04	206037WAS	NA	48,120	NA	NA	NA	47,840	32,140	2	2
10506	1/6/2009	2:13	206038WAS	NA	43,800	NA	NA	NA	43,700	35,460	2	2
10506	1/7/2009	8:43	206039WAS	NA	44,960	NA	NA	NA	44,760	35,840	2	2
1009	1/7/2009	8:53	206040WAS	NA	46,860	NA	NA	NA	47,420	33,000	2	2
1074	1/7/2009	9:20	206041WAS	NA	46,960	NA	NA	NA	47,140	33,200	2	2
1022	1/7/2009	9:22	206044WAS	NA	46,180	NA	NA	NA	46,360	31,380	2	2
1056	1/7/2009	9:47	206042WAS	NA	45,680	NA	NA	NA	45,780	33,540	2	2
1084	1/7/2009	9:56	206043WAS	NA	42,700	NA	NA	NA	42,520	34,420	2	2
1024-1	11/10/2008	8:07	206047WAS	NA	48,480	NA	NA	NA	48,020	31,260	3	1
1024-2	11/10/2008	7:54	206046WAS	NA	49,360	NA	NA	NA	48,980	31,120	3	1
1024-4	11/10/2008	8:20	206048WAS	NA	48,960	NA	NA	NA	49,640	31,560	3	1
1009	11/18/2008	8:14	11	45,460	NA	NA	NA	45,400 [3]	NA	32,860	3	1
1024-2	11/18/2008	8:15	12	45,760	NA	NA	NA	45,680 [3]	NA	31,080	3	1
10506	1/7/2009	2:09	77	42,720	NA	NA	NA	43,000	NA	35,500	3	2
1009	12/30/2008	1:02	73	44,820	NA	NA	NA	44,740 [3]	NA	32,720	3	2
1022	12/30/2008	1:19	74	45,640	NA	NA	NA	46,060 [3]	NA	31,540	3	2
1074	12/30/2008	1:52	75	48,100	NA	NA	NA	48,880 [3]	NA	32,340	3	2
1012	12/30/2008	2:04	76	45,340	NA	NA	NA	45,820 [3]	NA	32,200	3	2
1074	1/19/2009	2:30	127	45,040	NA	NA	NA	---	NA	32,960	3	2
1009	1/7/2009	2:20	78	47,000	NA	NA	NA	47,440 [3]	NA	32,640	3	3
1022	1/7/2009	2:48	79	45,360	NA	NA	NA	---	NA	31,000	3	3
1022	1/19/2009	3:46	128	45,520	NA	NA	NA	45,580 [3]	NA	31,040	3	3
1012	1/19/2009	3:20	129	45,700	NA	NA	NA	46,160 [3]	NA	32,380	3	3
1052	2/6/2009	12:43	139	46,480	NA	NA	NA	---	NA	32,440	3	4
1012	2/6/2009	1:42	140	44,500	NA	NA	NA	---	NA	32,180	3	4
1012	2/6/2009	9:23	138	40,420	NA	NA	NA	---	NA	32,600	3	4
1074	6/23/2009	1:30	163	47,220	NA	NA	NA	---	NA	32,580	3	4
1012	2/9/2009	9:20	143	44,840	NA	NA	NA	---	NA	32,400	3	5
1012	1/13/2009	8:34	81	41,080	NA	NA	NA	44,000 [3]	NA	32,700	4	1
1009	1/13/2009	8:23	82	45,140	NA	NA	NA	45,100 [3]	NA	32,200	4	1
1074	1/13/2009	8:44	83	44,920	NA	NA	NA	44,920 [3]	NA	33,000	4	1
1056	1/13/2009	8:54	84	43,860	NA	NA	NA	---	NA	33,020	4	1
1022	1/13/2009	9:07	85	46,940	NA	NA	NA	46,860 [3]	NA	31,260	4	1
1084	1/13/2009	9:14	86	40,300	NA	NA	NA	40,500 [3]	NA	34,480	4	1
1009	1/13/2009	12:26	87	46,780	NA	NA	NA	46,880 [3]	NA	32,160	4	1
1074	1/13/2009	12:52	88	45,820	NA	NA	NA	46,220 [3]	NA	32,720	4	1
1056	1/13/2009	1:02	89	45,780	NA	NA	NA	---	NA	33,320	4	1
1012	1/13/2009	1:16	90	47,100	NA	NA	NA	47,240 [3]	NA	32,440	4	1
1084	1/13/2009	1:30	91	44,260	NA	NA	NA	44,700 [3]	NA	34,200	4	1
1022	1/13/2009	1:39	92	48,520	NA	NA	NA	48,460 [3]	NA	31,180	4	1
1012	1/14/2009	8:07	93	43,600	NA	NA	NA	43,680 [3]	NA	32,120	4	1
1074	1/14/2009	8:20	94	44,160	NA	NA	NA	44,280 [3]	NA	33,500	4	1
1056	1/14/2009	8:31	95	43,920	NA	NA	NA	---	NA	33,940	4	1
1084	1/14/2009	9:11	96	44,180	NA	NA	NA	44,120 [3]	NA	33,900	4	1
1022	1/14/2009	10:44	97	44,320	NA	NA	NA	44,640 [3]	NA	31,580	4	1
1009	1/14/2009	10:56	98	46,100	NA	NA	NA	46,240 [3]	NA	33,000	4	1
1012	1/14/2009	12:46	99	45,620	NA	NA	NA	45,940 [3]	NA	31,980	4	1
1074	1/14/2009	1:04	100	46,160	NA	NA	NA	46,140 [3]	NA	33,360	4	1
1056	1/14/2009	1:16	101	44,400	NA	NA	NA	---	NA	34,000	4	1
1084	1/14/2009	1:34	102	41,900	NA	NA	NA	42,140 [3]	NA	33,780	4	1
1009	1/15/2009	8:50	103	44,040	NA	NA	NA	43,420 [3]	NA	32,620	4	1
1012	1/15/2009	8:37	104	43,060	NA	NA	NA	42,040 [3]	NA	31,760	4	1

Appendix H
NSA Crane
Manifests and Weight of Material Disposed by Area and Round
SWMU 13 Interim Measures Report

Truck Number [1]	Date	Time [2]	Manifest #	Crane Scale Non Hazardous Net Weight (lbs.)	Crane Scale TSCA Net Weight (lbs.)	Incoming Fill Dirt Net Weight (lbs.)	Clean Harbors Non-Hazardous (gal)	Republic Scale Non Hazardous Net Weight (lb.)	Heritage Scale TSCA Hazardous Net Weight (lbs	Tare Weight (lbs.) [4]	Building Area	Round
1056	1/15/2009	9:11	105	44,420	NA	NA	NA	---	NA	33,420	4	1
1074	1/15/2009	9:25	106	41,320	NA	NA	NA	40,380 [3]	NA	33,120	4	1
1084	1/15/2009	10:02	107	46,640	NA	NA	NA	46,520 [3]	NA	33,500	4	1
1052	1/15/2009	10:01	108	47,120	NA	NA	NA	46,180 [3]	NA	31,880	4	1
1022	1/15/2009	10:46	109	48,460	NA	NA	NA	47,620 [3]	NA	31,300	4	1
1012	1/15/2009	12:54	110	43,140	NA	NA	NA	42,760 [3]	NA	31,740	4	1
1009	1/15/2009	1:05	111	45,760	NA	NA	NA	45,700 [3]	NA	32,320	4	1
1056	1/15/2009	1:21	112	44,200	NA	NA	NA	---	NA	33,460	4	1
1074	1/15/2009	1:33	113	44,360	NA	NA	NA	43,720 [3]	NA	32,860	4	1
1052	1/15/2009	2:47	114	45,860	NA	NA	NA	45,960 [3]	NA	32,620	4	1
1084	1/15/2009	3:14	115	45,820	NA	NA	NA	45,980 [3]	NA	33,280	4	1
1022	1/22/2009	9:16	131	44,800	NA	NA	NA	44,980 [3]	NA	31,200	4	2
1012	1/22/2009	8:29	130	46,520	NA	NA	NA	---	NA	32,000	4	2
1012	1/23/2009	8:34	134	43,760	NA	NA	NA	---	NA	32,800	4	2
1022	1/23/2009	9:06	135	46,900	NA	NA	NA	46,720	NA	31,020	4	2
1012	1/23/2009	1:25	137	48,200	NA	NA	NA	---	NA	32,740	4	2
1022	1/23/2009	1:48	136	48,460	NA	NA	NA	48,240	NA	30,880	4	2
1024-2	11/18/2008	1:09	14	49,200	NA	55,220 [7]	NA	49,140 [3]	NA	30,900	5	1
1022	11/18/2008	2:15	15	45,480	NA	47,440 [7]	NA	45,680 [3]	NA	30,780	5	1
1009	11/18/2008	2:25	16	45,780	NA	47,020 [7]	NA	45,760 [3]	NA	32,460	5	1
1024-2	11/19/2008	8:40	17	48,280	NA	NA	NA	48,260 [3]	NA	31,280	5	1
1024-2	11/19/2008	1:07	18	48,940	NA	52,860 [7]	NA	49,120 [3]	NA	31,100	5	1
---	1/20/2009	---	2330253	NA	NA	NA	5,180	NA	NA	NA	1 (water)	NA
1084	6/8/2009	9:53	233717WAS	NA	47,560	NA	NA	NA	47,660	33,140	1A	1
1084	6/8/2009	3:46	233721WAS	NA	45,421	NA	NA	NA	45,440	32,900	1A	1
1074	6/17/2009	8:26	145	45,980	NA	NA	NA	---	NA	33,340	1A	1
1084A	6/17/2009	8:44	146	44,920	NA	NA	NA	---	NA	33,060	1A	1
1001	6/17/2009	9:04	147	43,860	NA	NA	NA	---	NA	31,940	1A	1
1012	6/17/2009	9:55	148	46,800	NA	NA	NA	---	NA	32,220	1A	1
1052	6/17/2009	10:26	149	48,540	NA	NA	NA	---	NA	32,180	1A	1
1074	6/17/2009	1:22	150	46,780	NA	NA	NA	---	NA	33,160	1A	1
1084	6/17/2009	1:36	151	46,420	NA	NA	NA	---	NA	33,020	1A	1
1012	6/17/2009	2:03	152	43,780	NA	NA	NA	---	NA	32,020	1A	1
1001	6/17/2009	2:25	153	47,920	NA	NA	NA	---	NA	32,000	1A	1
1052	6/17/2009	2:45	154	49,040	NA	NA	NA	---	NA	31,840	1A	1
1074	6/18/2009	8:37	155	45,140	NA	NA	NA	---	NA	32,980	1A	1
1001	6/18/2009	8:53	156	40,640	NA	NA	NA	---	NA	33,460	1A	1
1012	6/18/2009	9:37	157	48,540	NA	NA	NA	---	NA	31,860	1A	1
1084A	6/18/2009	10:23	158	47,320	NA	NA	NA	---	NA	31,780	1A	1
1012	6/18/2009	10:49	159	47,580	NA	NA	NA	---	NA	32,500	1A	1
1074	6/23/2009	8:22	160	47,260	NA	NA	NA	---	NA	32,640	1A	1
1012	6/23/2009	8:52	161	46,920	NA	NA	NA	---	NA	31,640	1A	1
1012	6/23/2009	1:45	162	45,840	NA	NA	NA	---	NA	31,920	1A	1
38	7/31/2009	---	166	13,260	NA	NA	NA	13,580	NA	34,640	1A	2
528-2066	10/5/2009	---	284654WAS	NA	4,240	NA	NA	NA	4,240	---	1A	3
82WIL	6/25/2009	12:48	6808	NA	NA	42,600	NA	NA	NA	NA	1A	backfill
82WIL	6/25/2009	10:20	6793	NA	NA	42,960	NA	NA	NA	NA	1A	backfill
82WIL	6/25/2009	7:54	6778	NA	NA	42,900	NA	NA	NA	NA	1A	backfill
41WIL	6/25/2009	10:16	6792	NA	NA	44,800	NA	NA	NA	NA	1A	backfill
84WIL	6/25/2009	12:57	6809	NA	NA	44,480	NA	NA	NA	NA	1A	backfill
41WIL	6/25/2009	7:53	6777	NA	NA	44,800	NA	NA	NA	NA	1A	backfill
34WIL	6/25/2009	12:22	6805	NA	NA	44,440	NA	NA	NA	NA	1A	backfill
34WIL	6/25/2009	9:53	6787	NA	NA	44,780	NA	NA	NA	NA	1A	backfill
34WIL	6/25/2009	7:52	6776	NA	NA	44,400	NA	NA	NA	NA	1A	backfill
24WIL	6/25/2009	7:44	6774	NA	NA	46,920	NA	NA	NA	NA	1A	backfill
24WIL	6/25/2009	10:06	6789	NA	NA	46,800	NA	NA	NA	NA	1A	backfill
24WIL	6/25/2009	12:36	6806	NA	NA	46,760	NA	NA	NA	NA	1A	backfill
27WIL	6/25/2009	12:39	6807	NA	NA	44,120	NA	NA	NA	NA	1A	backfill
27WIL	6/25/2009	10:24	6794	NA	NA	41,700	NA	NA	NA	NA	1A	backfill
27WIL	6/25/2009	7:57	6779	NA	NA	44,800	NA	NA	NA	NA	1A	backfill
---	7/31/2009	---	73109	NA	NA	NA	4,100	NA	NA	NA	1A (water)	NA
---	7/31/2009	---	73109A	NA	NA	NA	2,800	NA	NA	NA	1A (water)	NA
1022	1/22/2009	2:25	132	48,300	NA	NA	NA	---	NA	30,780	1B	1
1012	1/22/2009	1:41	123	46,880	NA	NA	NA	---	NA	31,760	1B	1
---	1/20/2009	---	2330254	NA	NA	NA	5,200	NA	NA	NA	2 (water)	NA
46	3/15/2010	12:42	169	41,760	NA	NA	NA	42,560	NA	27,300	2A	1
46	3/16/2010	7:08	171	45,940	NA	NA	NA	46,740	NA	27,240	2A	1
46	3/15/2010	8:24	168	45,800	NA	NA	NA	46,640	NA	27,300	2A	1
45	3/15/2010	8:20	167	46,020	NA	NA	NA	46,680	NA	26,880	2A	1
---	3/17/2010	---	315839WAS	NA	41,320	NA	NA	NA	43,320	34,280	2A	1

Appendix H
NSA Crane
Manifests and Weight of Material Disposed by Area and Round
SWMU 13 Interim Measures Report

Truck Number [1]	Date	Time [2]	Manifest #	Crane Scale Non Hazardous Net Weight (lbs.)	Crane Scale TSCA Net Weight (lbs.)	Incoming Fill Dirt Net Weight (lbs.)	Clean Harbors Non-Hazardous (gal)	Republic Scale Non Hazardous Net Weight (lb.)	Heritage Scale TSCA Hazardous Net Weight (lbs	Tare Weight (lbs.) [4]	Building Area	Round
1012	4/16/2010	7:36	303189WAS	NA	45,080	NA	NA	NA	45,140	32,260	2A	2
3391	4/16/2010	7:42	303190WAS	NA	46,840	NA	NA	NA	46,900	32,680	2A	2
3391	4/16/2010	1:20	303191WAS	NA	44,100	NA	NA	NA	44,200	32,440	2A	2
1012	4/16/2010	1:33	303192WAS	NA	46,480	NA	NA	NA	46,460	32,020	2A	2
18	7/8/2010	3:56	342315WAS	NA	45,900	NA	NA	NA	45,920	30,500	2A	3
1040	7/8/2010	3:29	342285WAS	NA	49,040	NA	NA	NA	49,080	30,560	2A	3
21221	7/8/2010	3:15	342314WAS	NA	50,000	NA	NA	NA	49,960	30,280	2A	3
1074	7/8/2010	3:12	342313WAS	NA	47,140	NA	NA	NA	47,200	32,720	2A	3
1056	7/8/2010		342312WAS	NA	45,900	NA	NA	NA	45,840	32,560	2A	3
126	7/8/2010	2:02	342280WAS	NA	46,600	NA	NA	NA	46,800	34,340	2A	3
18	7/8/2010	9:50	342281WAS	NA	46,140	NA	NA	NA	46,220	30,760	2A	3
1074	7/8/2010	8:50	342282WAS	NA	46,340	NA	NA	NA	46,120	32,620	2A	3
1040	7/8/2010	8:37	342283WAS	NA	48,360	NA	NA	NA	48,460	30,580	2A	3
1056	7/8/2010	8:22	342284WAS	NA	47,040	NA	NA	NA	47,080	32,820	2A	3
40	7/9/2010	12:36	182	44,980	NA	NA	NA	44,980	NA	26,500	2A	3
58	7/9/2010	12:27	181	39,760	NA	NA	NA	39,520	NA	33,300	2A	3
28	7/9/2010	12:02	180	41,760	NA	NA	NA	41,660	NA	26,740	2A	3
43	7/9/2010	12:01	179	38,980	NA	NA	NA	39,300	NA	26,160	2A	3
41	7/9/2010	11:57	178	42,100	NA	NA	NA	42,240	NA	25,940	2A	3
42	7/9/2010	11:50	177	40,880	NA	NA	NA	41,500	NA	26,640	2A	3
46	7/9/2010	11:31	176	43,520	NA	NA	NA	44,280	NA	27,100	2A	3
45	7/9/2010	11:22	175	44,700	NA	NA	NA	46,240	NA	27,840	2A	3
58	7/9/2010	7:57	172	36,560	NA	NA	NA	36,100	NA	33,140	2A	3
40	7/9/2010	8:04	174	43,680	NA	NA	NA	43,700	NA	26,580	2A	3
1056	7/9/2010	12:16	498700GBF	NA	35,700	NA	NA	NA	35,780	32,440	2A	4
42	7/9/2010	7:38	171	39,060	NA	NA	NA	39,120	NA	26,480	2A	4
43	7/9/2010	7:22	167	41,760	NA	NA	NA	41,960	NA	26,020	2A	4
28	7/9/2010	7:34	170	41,400	NA	NA	NA	40,680	NA	26,160	2A	4
41	7/9/2010	7:20	169	40,680	NA	NA	NA	41,440	NA	25,980	2A	4
46	7/9/2010	7:49	172	44,780	NA	NA	NA	45,320	NA	26,960	2A	4
45	7/9/2010	7:00	168	42,560	NA	NA	NA	43,320	NA	27,080	2A	4
---	7/14/2010	3:44 [8]	102	46,860	NA	NA	NA	47,320	NA	26,380 [9]	2A	4
---	7/14/2010	3:42 [8]	101	42,080	NA	NA	NA	41,960	NA	25,780	2A	4
---	7/14/2010	11:56 [8]	190	46,620	NA	NA	NA	47,200	NA	26,380	2A	4
41	7/14/2010	9:14	189	41,460	NA	NA	NA	41,460	NA	25,820	2A	5
43	7/14/2010	9:03	188	40,940	NA	NA	NA	41,120	NA	25,940	2A	5
1022	11/18/2008	8:31	13	47,620	NA	NA	NA	47,520 [3]	NA	31,000	2B	1
1074	1/16/2009	8:17	116	42,080	NA	NA	NA	44,000 [3]	NA	33,160	2B	1
1009	1/16/2009	8:31	117	45,240	NA	NA	NA	44,660 [3]	NA	32,940	2B	1
1022	1/16/2009	8:43	118	44,000	NA	NA	NA	44,000 [3]	NA	31,160	2B	1
1012	1/16/2009	8:57	119	44,900	NA	NA	NA	44,000 [3]	NA	32,720	2B	1
1009	1/16/2009	1:18	120	42,320	NA	NA	NA	44,000 [3]	NA	32,680	2B	1
1074	1/16/2009	1:21	121	45,420	NA	NA	NA	45,580 [3]	NA	33,280	2B	1
1012	1/16/2009	1:53	122	46,480	NA	NA	NA	46,680 [3]	NA	32,540	2B	1
1022	1/16/2009	2:16	053	48,100	NA	NA	NA	48,100 [3]	NA	31,060	2B	1
---	3/17/2010	8:58	315840WAS	NA	43,420	NA	NA	NA	43,500	34,520	5A	1
---	2/10/2009	---	20938	NA	NA	NA	3,872	NA	NA	NA	decon water	NA
45	3/15/2010	1:00	170	45,180	NA	NA	NA	45,940	NA	26,880	support area	2
			TOTAL	**8,322,188**	**2,707,801**		**21,152**	**6,562,840**	**2,706,440**	**7,651,460**		

NA Not Applicable
--- Information not available
1 Unless otherwise indicated, information in this table was obtained from the original manifests and weight tickets provided in Appendix J.1 and J.2.
2 Unless otherwise indicated, times provided are the times trucks left the Crane scale.
3 Republic scale weight was obtained from the Toltest February 12, 2009, daily report because no original Republic weight ticket was provided. See page 308/388 of Appendix I.
4 Unless otherwise indicated, tare weights were obtained from the Crane weight ticket.
5 Tare weight obtained from the Toltest February 12, 2009, daily report. See page 308/388 of Appendix I.
6 Corrected weight provided on Toltest February 12, 2009, daily report based on weight from Crane weight ticket.
7 Toltest February 12, 2009, daily report (page 308/388 of Appendix I) indicates which area of the site this incoming fill dirt was placed in.
8 Time indicated is for when the truck left the Republic scale rather than the Crane scale.
9 Tare weight obtained from the Republic weight ticket (Republic scale rather than the Crane scale).

From: Ramanauskas, Peter <ramanauskas.peter@epa.gov>
Sent: Monday, November 25, 2013 2:43 PM
To: Brent, Thomas CIV NAVFAC MW, PWD Crane EV
Cc: Hickey, Howard M CIV NAVFAC MW EV; Johnston, Tom; Basinski, Ralph; Collins, Betsy
Subject: RE: NSA Crane SWMU 13 Interim Meas. Rpt: Second Round of RTCs to EPA Comments

OK, thanks for the info.
Pete

-----Original Message-----
From: Brent, Thomas CIV NAVFAC MW, PWD Crane EV [mailto:thomas.brent@navy.mil]
Sent: Monday, November 25, 2013 12:32 PM
To: Ramanauskas, Peter
Cc: Hickey, Howard M CIV NAVFAC MW EV; Johnston, Tom; Basinski, Ralph; Collins, Betsy
Subject: RE: NSA Crane SWMU 13 Interim Meas. Rpt: Second Round of RTCs to EPA Comments

Pete,

Attached is an email where I had contacted the landfill to see if I could obtain the weight tickets. Their response was that they only keep 3 years of tickets, plus the current year. Since the last shipment from SWMU 13 was June 2009, they have apparently disposed of the tickets.

As to why the tickets were not obtained; at the time I was acting under the assumption that the scale tickets from our scales would serve as record of what was shipped for disposal and that the two scales would be reasonably close. For example, for the SWMU 13 TSCA waste, the DRMO scales totaled 2,707,810 pounds. The disposal facility scales totaled 2,702,511 pounds. That's a difference of 5,299 pounds, or 0.2%.

Lastly, I would offer that for SWMU 17 Phase 1, I requested field oversight assistance from Tetra Tech. This extra support allows us to do a much better job of record keeping. I believe we have all of the disposal facility weights (and most, if not all, of the disposal facility weight tickets). This will be the procedure we use on all future IM projects as well.

Thanks,
Tom

-----Original Message-----
From: Ramanauskas, Peter [mailto:ramanauskas.peter@epa.gov]
Sent: Friday, November 08, 2013 11:51
To: Brent, Thomas CIV NAVFAC MW, PWD Crane EV
Cc: Hickey, Howard M CIV NAVFAC MW EV; Johnston, Tom; Basinski, Ralph; Collins, Betsy
Subject: RE: NSA Crane SWMU 13 Interim Meas. Rpt: Second Round of RTCs to EPA Comments

Tom,

Thanks for transmitting the additional responses. I am OK with finalizing the IMR, but why could you not obtain the 38 weight tickets from Republic?

Thanks,
Pete

-----Original Message-----
From: Brent, Thomas CIV NAVFAC MW, PWD Crane EV [mailto:thomas.brent@navy.mil]
Sent: Friday, November 01, 2013 6:00 AM
To: Ramanauskas, Peter
Cc: Hickey, Howard M CIV NAVFAC MW EV; Johnston, Tom; Basinski, Ralph; Collins, Betsy
Subject: FW: NSA Crane SWMU 13 Interim Meas. Rpt: Second Round of RTCs to EPA Comments

Pete,

Attached for your review are responses to your 23 September 2013 comments on the SWMU 13 (MFB) IMR along with the relevant sections of the IMR to which changes or corrections have been made.

In an effort to maintain continuity and provide context for these new responses, the new responses are embedded in the original responses to EPA comments. The new responses, which apply to original comments 5 and 6 only, are identified as "EPA Additional Comment on Response to Comment X:" in the file entitled "Responses to EPA Questions.".

Hopefully, you'll find these responses satisfactorily addresses your comments. Once you approve the responses, the SWMU 13 IMR will be revised and submitted as final. Please let us know if you have any questions.

Thanks,
Tom